Operational Review and Clinical Audit of The Ottawa Hospital

Final Report

June 2001

HayGroup

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APPENDIX A

APPENDIX B

Executive Summary

1.1 Project Background

Project Objectives

The Ministry of Health and Long-Term Care commissioned this operational review of The Ottawa Hospital in response to the hospital's seriously deteriorating financial position. The overall objective of the review has been to develop a plan for improvements in the management and operations of the hospital that will provide for both a positive financial position and the hospital's continuing ability to respond to the health needs of the population and the academic needs of the University of Ottawa Academic Health Science Centre.

The Steering Committee

The project was conducted by consultants from the Hay Health Care Consulting Group (HayGroup) under the direction the Ministry of Health and Long-Term Care. The study received advice from a Steering Committee made up of representatives of The Ottawa Hospital, The University of Ottawa and the Ministry of Health and Long-term Care. The Committee had an independent chair and the CEOs of two other Ottawa hospitals and the CCAC participated on the Committee as observers.

The Ottawa Hospital

The Ottawa Hospital came into being on April 1, 1998. It is the result of the merger of the Ottawa Civic Hospital, the Ottawa General Hospital and the Riverside Hospital. The Ottawa Hospital today is one of the largest tertiary academic centres in Canada. In fiscal 1999/2000, the hospital operated 932 acute adult inpatient beds. During that year, the hospital had 55,395 separations that used 394,161 patient days. Over the same period, the hospital performed 43,061 same-day surgical procedures. There were 139,244 visits to the Civic and General Emergency Departments and the Riverside Acute Care Medical Centre. In addition, there were approximately 1,000,000 visits for ambulatory care clinics and diagnostic imaging procedures. The hospital provides care for patients from Ottawa and the surrounding communities and is an important provider of secondary and tertiary hospital services for the population of Hull and its surrounding communities.

Programs of The Ottawa Hospital

The following table shows the distribution of Ottawa Hospital inpatient and ambulatory procedure (SDS) activity by major program area.

Ottawa Hospital Activity by Program in 1999/00

Program	IP Cases	IP Days	ALC Days	Qual. SDS Cases	Total OCW	% of TOH OCW	% ALC	% SDS
Surgery	20,744	172,131	11,265	29,772	52,028	55%	7%	59%
Medicine	15,671	131,012	15,118	11,423	26,458	28%	12%	42%
Obstetrics	9,298	28,018	9	1,585	7,174	8%	0%	15%
Newborn	7,815	28,521	117		4,610	5%	0%	0%
Psychiatry	1,709	30,690	3,713	12	3,013	3%	12%	1%
Other	158	3,789	516	269	575	1%	14%	63%
Grand Total	55,395	394,161	30,738	43,061	93,858	100%	8%	44%

The University of Ottawa Heart Institute, in an unusual relationship, functions as an independent but subsidiary corporation of the hospital. The hospital also has collaborative agreements with the Ottawa Regional Cancer Centre. As an academic facility, the hospital is closely allied with the University of Ottawa, in particular the Faculty of Medicine and the Faculty of Health Sciences. The hospital has a collaborative agreement with newly launched Ottawa Health Research Institute.

The Ottawa Hospital employs almost 9,000 people and has a medical staff of 1,200.

Growth in patient volume

From 1995/96 to 1999/2000, there was a 4.7% increase in the total number of inpatient and ambulatory procedure cases at the sites now included in The Ottawa Hospital. Ambulatory procedure cases increased by almost 40%, while inpatient cases decreased by 12% and inpatient days decreased by 13%. The almost 40% increase in ambulatory procedure (SDS) cases was primarily due to the transfer of the Salvation Army Grace ophthalmology program (which was predominantly ambulatory surgical activity), part way through the 1999/2000 fiscal year, to The Ottawa Hospital.

Financial history of The Ottawa Hospital: Increasing operating losses and deteriorating working capital

In 1996/97 The Ottawa Hospital's predecessor organizations achieved a virtually balanced combined operating position with a $93,001 operating surplus. However, in 1997/98 these hospitals recorded a combined operating deficit of $13,644,847, and this operating deficit has continued to grow to $31,159,358 in 1999/00[1]. We currently estimate that The Ottawa Hospital and the Heart Institute together will have operating deficits that exceed $80 million in 2000/01.

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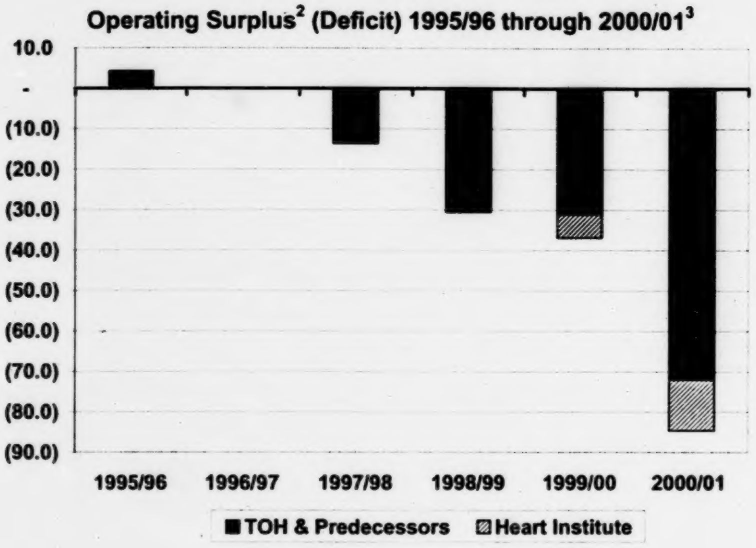
[1] Note that this chart includes the results of the Heart Institute for continuity, since earlier years did include its operations.



The 2000/01 Operating Plan contemplated a scenario that would have resulted in an operating deficit of $36 million. However, the second quarter year-end projection prepared by the hospital paints an even bleaker picture with a projected operating deficit for 2000/01 of $67.7 million that increases to $72 million when restructuring expenses are added. A significant factor in the increase in operating losses was an unbudgeted expense related to the harmonization of wages across the campuses.

Impact of restructuring on the cost of labour

As noted above, over the short term, one of the most significant cost drivers for the hospital likely will be the cost of wage standardization related to the merger. It is expected that recent settlements for wage standardization (and from provincial bargaining) will cause the average wage and compensation costs to jump significantly in 2000/01 and beyond. In amalgamating the different collective agreements of the predecessor organizations, the TOH reviewed precedent setting decisions in other hospitals in Ontario. TOH decided to follow Arbitrator Quinty's ruling that provides for application of the highest common salary scale for a group of employees and also for movement of the wages of employees that have reached the maximum of their previous salary scale to the maximum of the new common salary scale. We estimate that wage standardization will cause labour costs to increase by as much as $23.8 million per year. Additionally there will be one-time retroactive payments of approximately $24 million.

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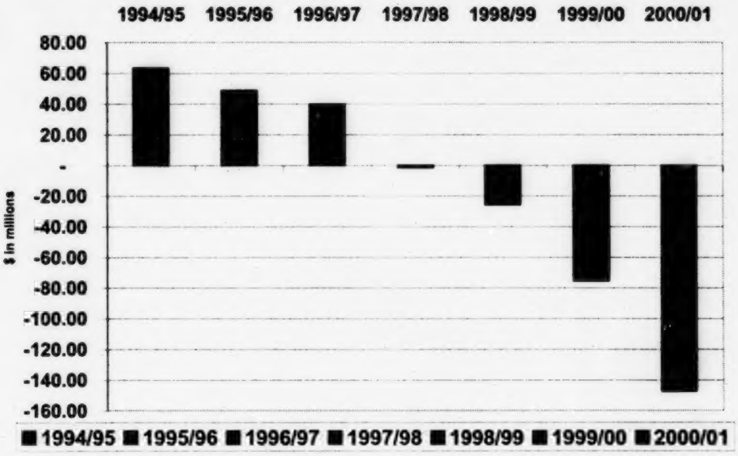
[2] Excluding Restructuring

[3] Projection for 2000/01

Working Capital

The hospital's working funds have declined dramatically. From a consolidated balance of $63.17 million for the predecessor hospitals in 1996/97, working funds decreased by $121.02 million to a deficit of $75.40 million at the end of 1999/00.

Ottawa Hospital Working Funds 1995/96 through 2000/01[4]



And the hospital is projecting continued further deterioration of its working funds. It is forecasting that its working funds deficit will exceed $140 million at the end of 2000/01

Hospital Capital Costs

The Ottawa Hospital spent $123 million for capital acquisition over the period 1995/96 through 1999/00. Capital spending contributed $22 million to the decrease in working funds over the period. And the hospital estimates that it will require an additional approximately $100 to 200 million in capital activity related to the HSRC directives and another $200 million for other hospital developments. As can easily be seen, the financial position of the hospital is clearly unsustainable

1.2 Governance and Management

Governance[5] is the exercise by the hospital's board of directors of authority, direction and control over the hospital. Fundamental responsibilities of governance are:

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[4] Estimated value for 2001

- defining the purposes, principles, and objectives of hospital
- ensuring and monitoring the quality of hospital services
- ensuring fiscal integrity and long-term future of hospital
- arranging for and monitoring the effectiveness of the hospital's management
- approving annual operating plans and budgets of hospital

The board of a hospital is directly accountable to the corporation of the hospital. The board and corporation are accountable to the patients and communities served by the hospital, to the provincial government that funds the hospital on behalf of these patients and communities as well as to staff of the hospital.

Defining & maintaining purposes & principles of the hospital

We believe that a Vision/Mission Statement, Role Statement, Long Range Plan and Strategic Plan are critical to the successful governance and management of a hospital. Since the merger, the planning activities of the Board have focused on integrating the programs and services of the predecessor organizations. It has led to the adoption of the 3 campus, balanced model for organizing and delivering hospital programs and services as the framework for program and service integration to form The Ottawa Hospital. The hospital has not as yet formally articulated its desired role in responding to the health needs of the community nor developed long-range or strategic plans to guide its future growth and development. In directing the merger process it has relied on the role for the hospital implied by its Mission Statement and the program composition suggested by the HSRC. With the planning for program realignment and the necessary facilities to accommodate the merger almost complete, it is time for the hospital to begin to contemplate and prepare for its longer-term future.

Ensuring the fiscal integrity and long-term future of the hospital

For the board of a hospital to be able to exercise its responsibility in ensuring the fiscal integrity and long-term future of the organization, the hospital must have strong processes for operational planning and budgeting and for reporting on progress in achieving these plans and budgets. The Ottawa Hospital board is actively involved in reviewing and then approving the operating plan and budget for the

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[5] Steering Committee, Public Hospitals Act Review, "Into the 21st Century, Ontario's Public Hospitals, February 1992.

hospital. However, the board's strategy in dealing with the hospital's operating losses (budgeting for operating losses and accepting costs and losses that exceed its budgets) has put the financial health of the hospital in jeopardy. The Board firmly believes that The Ottawa Hospital has been under-funded as compared to its peer hospitals. For example, the board approved an operating plan and budget for 2000/01 that would see a loss from operations and restructuring of $42.3 million. In considering this budget, the board directed that the hospital should reduce it's operating expenses from 1999/00 by only $5 million, a reduction of only slightly more than 1% of the hospital's total operating expenses. The board assumed that the Ministry of Health would increase funding to eliminate the budgeted operating deficit. It should be noted that the MOHLTC had not approved the 1999/00 operating plans and the associated recovery plan submitted by the Hospital that were based on the same assumption of Ministry action to ameliorate the hospital's financial plight.

The Board of The Ottawa Hospital needs to take more responsibility for the financial health of the hospital by insisting that management aggressively pursue opportunities to minimize costs through improved clinical and operational efficiency and/or reduced content of care before it considers reductions in the volume of service provided by the hospital or seeks additional funding from the Ministry.

Hospital Management

It is generally accepted in the hospital industry that management is "responsible for the effective and efficient operation of the hospital in accordance with the direction set by the board[6]." Operational planning and budgeting are the annual management processes through which a hospital implements its long-range plans and fulfills its mission. A hospital needs the operating plan and related budget to describe and quantify its annual objectives and its planned program, service and fiscal initiatives. The plan and budget should be reviewed and approved by the board, and thus is one of the most effective vehicles for ensuring accountability of hospital management and staff to the board, and to the hospital corporation and the communities served by the hospital.

To achieve cost reductions, budgeting processes must focus first on the efficiency of departmental processes and the content of care. Only as a last resort should hospitals consider reducing the number of patients treated.

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[6] From "Into the 21st Century: Ontario's Public Hospitals, Report of the Steering Committee, Public Hospitals Act Review, Ontario Ministry of Health, Toronto, Ontario, February, 1992

TOH planning and budgeting over the past 3 years has proposed only very modest reductions, if any, in spending from prior years. In 1999/00 the hospital budget provided for only a 1.3% reduction in spending before adding the increased unit costs of labour. In 2000/01, the hospital budget provided for only slightly more than a 1% reduction in spending before adding the increased unit cost of labour. And hospital management did not contain staffing levels and the corresponding spending of the hospital to its budgeted levels. Labour hours have exceeded both budgeted and prior year levels even though inpatient volumes have remained relatively constant. To compound the problem the unit cost of labour has exceeded the budgeted levels[7]. The increases in hours and wage rates have driven hospital costs dramatically beyond budgeted levels of expenditures[8]. The hospital's needs to improve the accuracy of the:

- Forecasts and plans for patient volume
- Plans for departmental workload
- Plans for departmental productivity
- Forecasts of the unit costs of labour and materials

included in its annual operating plans and budgets in order to provide the board and the Ministry with more accurate forecasts of hospital operating costs and results.

The principal focus of the hospital's financial planning and management has been to look for external solutions to its fiscal problem through increases in Ministry or other funding. There has been only minimal attention to seeking opportunities to change care processes and/or improve efficiency to mitigate the impact of increasing costs of labour and supplies to allow the hospital to maintain patient volume while containing or reducing operating costs.

The hospital has assumed that its perceived entitlement to increased operating funding would be recognized fully and rectified by Ministry of Health and Long-term Care. But, the hospital has not received any confirmation from the Ministry that it agreed with these positions or that it intended to increase funding to the hospital's level of spending. To be fair, the ministry also has not clearly told the hospital that it wouldn't adjust Ministry funding of the hospital to recognize the hospital's spending.

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[7] The hospital did not provide for or underestimated the cost of provincial wage settlements and wage standardization related to the merger.

[8] Cover letter to Second Quarter Report Submission from Richard Wilson to Peter Finkle. Dated November 1, 2000.

Assuming that the Ministry would eventually confirm its assumptions and decisions, the hospital has proceeded to spend on hospital operations (and capital projects) far in excess of the funding provided or committed by the Ministry of Health. While waiting for the Ministry to solve its problems, the hospital has allowed its fiscal position to dramatically deteriorate. It is now forecasting a working funds deficit of $147.2 million by the end of fiscal year 2000/01. This will be the largest fiscal problem ever faced by an Ontario hospital.

Utilization Management Processes

Primary responsibility for coordinating utilization and quality management at The Ottawa Hospital is assigned to the corporate Clinical Quality Resource Management (CQRM) Committee. Until now, the focus of the CQRM Committee has been on establishing relationships (between sites and disciplines) and identifying data sources, measurement methodologies, and reports to support utilization management (and to evaluate the impact of program moves). The Committee has moved slowly to ensure physician comfort with data, methodologies, and principles before pursuing even modest opportunities to improve clinical efficiency. In addition, its choice of methodology and measurement are questionable. The Hospital has relied extensively on the CIHI "expected length of stay" (ELOS) as a measure of satisfactory length of stay performance. However, The Ottawa Hospital is the only Ontario teaching hospital whose length of stay is not significantly lower than the CIHI ELOS. We know of no other teaching hospital that continues to rely on the CIHI ELOS as their target for length of stay performance. As operating cost pressures have increased in recent years, most hospitals have established increasingly demanding targets for length of stay performance, recognizing that failure to do so will cause reduced access and increased cost. The focus at The Ottawa Hospital has been on the high number of ALC days, which leads to an emphasis on changes that must occur outside The Ottawa Hospital and may be beyond the control of the hospital. This focus, coupled with the repeated internal and external emphasis on the inadequacy of MOHLTC funding for The Ottawa Hospital, has diverted the Hospital from more aggressively seeking clinical efficiencies. More aggressive emphasis on length of stay reduction could have substantially reduced the Hospital's operating costs and occupancy levels.

1.3 Clinical and Operational Efficiency

Comparing actual and expected costs

Comparisons of actual and expected costs suggest that there are likely significant cost reduction opportunities at The Ottawa Hospital. In 1998/99, among its peer hospitals, only Hamilton exceeded its Expected Cost per Weighted Case (ECPWC) by a greater percentage than TOH as seen in the following exhibit. And, TOH shows the greatest potential dollar savings from reducing actual operating costs to the ECPWC. The Ottawa Hospital operating costs would have been $16.7 million less in 1998/99 if its Actual Cost per Weighted Case (ACPWC) had equaled its ECPWC.

Comparison of Expected Cost per Weighted Case – 1998/99

HOSPITAL	ACPWC	ECPWC	% over ECPWC	Rank	1998/99 Wtd Cases
TORONTO Mount Sinai	3,215.72	3,620.24	-11.17	1	26,563
TORONTO Hospital Corp	3,496.15	3,682.17	-5.05	2	95,698
HAMILTON St Joseph's	2,851.38	2,973.06	-4.09	3	32,101
TORONTO Sunnybrook & Women's	3,468.38	3,515.77	-1.35	4	56,052
LONDON Health Sciences	3,561.09	3,480.21	2.32	5	67,564
TORONTO St Michael's	3,525.62	3,378.62	4.35	6	52,797
OTTAWA The Ottawa Hospital	3,376.69	3,201.90	5.46	7	95,698
HAMILTON Health Sciences Centre	3,563.57	3,373.06	5.65	8	72,023

Clinical Efficiency

Benchmarking of clinical efficiency in this review is based on analysis of 1999/00 CIHI data for selected Ontario peer teaching hospitals. Targets have been used to assess the opportunity for TOH to reduce reliance on inpatient beds through:

- Shifting inpatient cases to ambulatory surgery and,
- Reducing inpatient length of stay (LOS)

The clinical efficiency targets are based on 25th percentile performance of the peer hospitals[9].

At the 25th percentile performance level, the estimated opportunity to reduce use of inpatient resources at The Ottawa Hospital in 1999/2000 was 53,439 inpatient days. However, this estimate includes 10,231 ALC days. Removing the ALC days leaves an opportunity of 43,207 days, 11.0% of the actual inpatient days used in 1999/2000 and approximately 132 beds/bassinets (at 90% occupancy)[10]. In 1999/2000, based on the calculated opportunity, The Ottawa Hospital had the greatest opportunity of all of the Ontario teaching hospitals to reduce reliance on inpatient acute care days.

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[9] To isolate those opportunities to reduce use of inpatient days that are least dependent on external changes and investments, the ALC days associated with the cases for which savings are estimated have been identified and subtracted from the savings estimate

The analysis of potentially conservable inpatient days has excluded consideration of any opportunities to reduce ALC days. However, given the planned significant new investment in long-term care beds in Ottawa-Carleton in 2001 and 2002, and the revised relationship of The Ottawa Hospital with the Rehabilitation Centre, reduction of ALC days can be a key component of the Hospital's future recovery plan.

Clinical efficiency and hospital operating costs

We estimated the cost savings from achieving the targeted clinical efficiencies by applying estimates of the projected departmental workload impacts to the current productivity of each department, and then calculating the resulting impact on FTEs, labour costs, non-labour costs, and revenues. Using this methodology we estimate a potential cost reduction of $13.8 million from clinical efficiencies. The cost saving would be offset by a loss of revenues of approximately $5.4 million. Thus we project a net change of about $8.3 million. Of these savings, we estimate that $1.3 million are attributable to the patients of the Heart Institute. Thus there are clinical efficiency savings of approximately $7 million per year available to The Ottawa Hospital. Our experience suggests that the hospital should be able to fully realize these savings within 2 years of initiating aggressive utilization management practices.

Improving operational efficiency

The objective of the analysis of the operational efficiency of the hospital was to identify potential opportunities where TOH could improve the efficiency and cost effectiveness within selected functional centres and services. Based on benchmarking TOH performance with peer hospitals and on-site reviews we have recommended and quantified potential improvements in levels of performance of many of the hospital's functional centres Achievement of the recommended performance levels would have resulted in the following reduced costs and increased revenues based on 1999/2000 volumes and workloads[11]:

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[10] **Based on the distribution by site of the estimated opportunities for the cardio-thoracic and cardiology PCCs, 6,873 or 16% of the potentially conserveable days (or 20.9 beds) are associated with Heart Institute activity.**

- $12.1 million in labour cost savings
- $10.5 million in non salary expense reductions
- $1.8 million increased revenues/recoveries

Thus, the net effect of the proposed operational changes will be a reduction in the hospitals operating losses of approximately $24.5 million per year. Realization of some of these cost savings and revenue increases will require capital investments.

Savings from clinical and operational efficiency

We estimate that the Hospital has an opportunity to improve its operating position by approximately $33 million from improvements in clinical and operational efficiency.

Repatriation Opportunities

The Ottawa Hospital has a lower overall tertiary emphasis[12] and a higher proportion of primary and secondary care patients than most other Ontario teaching hospitals. A reduction in the number of primary and secondary care patients treated at The Ottawa Hospital would:

- reduce the operating cost of The Ottawa Hospital and could
- reduce the overall cost of providing care in Ottawa[13]
- allow more residents of communities outside Ottawa-Carleton to receive their care closer to home, and
- create a clinical activity profile for TOH that is more consistent with other major Ontario teaching hospitals.
- not jeopardize the clinical activity critical mass requirements for teaching and research

If the capacity of the Queensway Carleton Hospital and the Monfort Hospital is or becomes sufficient to allow increases in patient volume, The Ottawa Hospital should explore opportunities to decant some of its primary and secondary hospital care to these community hospitals.

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[11] Additionally there may have been potential savings in 1999/00 in areas that are now operated by the Heart Institute, but that were a part of the funding, costs and deficit of The Ottawa Hospital in 1999/00. For functional centres that could be easily attributed to The Heart Institute, comparisons with peer hospitals suggest cost savings opportunities of as much as $2.5 million.

[12] Ottawa hospital statistics include Ottawa Heart Institute patients

[13] The costs per case at TOH is as much as $1200 more than at regional community hospitals

The question of funding equity

The Ottawa Hospital has maintained for some time that the MOHLTC inequitably provides it with less funding than the funding provided to other Ontario hospitals. It is true that there is a large variation in the MoHLTC funding as a percentage of total revenue among hospitals. The Ottawa Hospital consistently reported the lowest percentage of MoHLTC Funding to Total Revenue. However, differences in other categories of revenue affect these measures as well as do differences in funding. The Ottawa Hospital receives significantly more revenue for patient care from non-MoHLTC sources than do its peer hospitals. The Ottawa Hospital has much higher out-of-province patient revenues than the peer hospitals due to its proximity to the Quebec border and the historical reliance of Outaouais residents on Ottawa hospitals for acute care. Also, the Ottawa Hospital has relied on revenue for PQ patients to support its operations. It is not unreasonable to expect that MoHLTC revenue as a percentage of total revenue would be lower for a hospital that provides a greater proportion of its patient care services to patients whose care is paid for by non-MoHLTC sources. Also, over the period 1996/97 through 1999/00 The Ottawa Hospital earned $67.3 million more than the next highest hospital in the group from preferred accommodation.

The analysis of the equity of funding in this review is based on the premise that funding equity is achieved when the funding and revenues for direct care services contribute the same percentage of the overhead of the hospital to supporting that overhead. Our model incorporates all patient revenues, and takes into account accepted, historical differences in spending on overhead and corrects for inefficiencies in the delivery of direct care services.

Our analysis supports the notion that The Ottawa Hospital, during the period reviewed, was not funded equitably in relation to its peers to support its overhead activity. If one assumes that equitable funding is an objective or a requirement of the health system in Ontario, then The Ottawa Hospital could have claimed that it was under funded in 1998/99 by about $11 million. It should be noted that a review of Quebec inpatient revenue conducted in early 2000 found that the decrease in these revenues over the period 1994/95 through 1998/99 had eroded the TOH's annual operating results by some $6.6 million by 1998/99. This shortfall in revenues for Quebec patients accounted for approximately 61% of the shortfall in contribution to overhead in 1998/99. The MoHLTC has accepted findings of the review and has provided the recommended additional funding of $6.6 million to the Hospital. If that additional funding had been included in this analysis, then the remaining shortfall in Ministry funding would have been only $4.4 million in 1998/99. This is less than 1% of the operating budget of The Ottawa Hospital.

1.4 Proposed Implementation Plan

Because of the perilous state of the its finances, we urge the hospital to focus its first efforts in implementing the recommendations of this operational review on:

- reducing its operating costs through the identified clinical and operational efficiencies and
- working with the Ministry to adjust its funding to recognize the changes in the cost of labour from wage standardization and province-wide bargaining.

Once these efforts have been initiated it should then turn its attention to implementing the recommendations of this report related to governance and management. The following table presents our suggested scheduling of initiatives to improve the governance, management and efficiency of the hospital over the next 3 years. It also presents estimates of the savings that will be achievable in each year and their impact on the hospital's estimated working funds deficit of $147 million at the end of 2000/01.

Proposed 3-Year Implementation Schedule

Implementation Activities	2001/02		2002/03		2003/04	
	1-6	7-12	1-6	7-12	1-6	7-12
1 Acceptance of report and recommendations	■					
2 Negotiate recovery plan with Ministry of Health	■					
3 Enhance utilization management processes	■	■				
4 Achieve year 1 clinical efficiency savings		■				
5 Clinical review of ophthalmologic surgery	■	■				
6 Achieve year 1 operational efficiency savings	■	■				
7 Facility renovation/development						
7.1 ICU-Med/Surg (General)	■	■				
7.2 ICU-Med/Surg (Civic)	■	■				
7.3 ICU-Neonates	■	■				
7.4 Clinical Laboratories	■	■	■	■		
8 System acquisition/enhancement						
8.1 Health Records	■	■				
8.2 Materials Management	■	■				
8.3 Plant Maintenance	■	■				
8.4 Biomedical	■	■				
9 Diagnostic Imaging Technology	▤	▤	▤	▤	▤	▤
10 Long-range & strategic planning		■				
11 Operational planning & budgeting process		■				
12 Improved reporting to board and management		■				
13 Restructure governance			■			
14 Roles of Chief of Staff and MAC			■			
15 Relationship with Heart Institute	■					
16 Achieve year 2 clinical efficiency savings			■	■		
17 Achieve year 2 operational efficiency savings			■	■		
18 Achieve year 3 operational efficiency savings					■	■
20 Report to Ministry on Progress						
TOH Opening Funds Position - April 1	$ (147,400,000)		$ (199,562,485)		$ (240,587,369)	
TOH Operating Surplus(Deficit) - Operations	$ (45,000,000)		$ (30,976,710)		$ (21,654,302)	
Restructuring Costs (net of reimbursement)	$ (20,000,000)		$ (18,000,000)		$ (18,000,000)	
Net Impact of Clinical Efficiency on TOH	$ 3,501,473		$ 3,501,473		$ -	
Net Impact of Operational Efficiency on TOH	$ 10,521,817		$ 5,820,935		$ 6,117,016	
One-time Costs/Savings (net of reimbursement)	$ (1,185,775)		$ 629,418		$ (946,341)	
TOH Operating Surplus(Deficit)	$ (52,162,485)		$ (39,024,884)		$ (34,483,627)	
Add Back Amortization of Equipment (net)	$ 12,000,000		$ 13,000,000		$ 13,000,000	
Purchase of Fixed Assets (net of grants)	$ (12,000,000)		$ (15,000,000)		$ (15,000,000)	
TOH Closing Funds Position	**$ (199,562,485)**		**$ (240,587,369)**		**$ (277,070,997)**	

As can be seen, over the next 3 years, the hospital should be able to achieve 95% of the impact of the improvements in clinical and operational efficiency identified in this review. These changes will provide a reduction in the hospital's operating losses of close to $30 million. However, even after this improvement, the hospital will still be left with an operating deficit exceeding $34 million[14]. Also, the hospital's working capital deficit will increase to $277 million by the end of 2003/04. Clearly, the hospital will need to secure additional revenues to achieve a positive fiscal position. If additional revenues are not available to the hospital, it will need to dramatically reduce either the content or volume of care that it provides for the populations in its catchment area.

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[14] Using the hospital's 1999/00 costs of labour and materials to estimate the potential savings potential. Restructuring costs include costs of wage standardization as provided by the hospital.

1.0 Background and Objectives

1.1 Project Background

The Ministry of Health and Long-Term Care commissioned this operational review of The Ottawa Hospital in response to the hospital's seriously deteriorating financial position. At the same time, the hospital had requested a review to help resolve and remedy both its finances and its funding relationship with the Ministry.

The financial position of the hospital is clearly unsustainable. Since the creation of The Ottawa Hospital in 1998, its operating costs have continued to exceed revenues and the gap is growing. In 1996/97 the Ottawa Hospital's predecessor organizations achieved a virtually balanced combined operating position with a $93 thousand operating surplus. Since then the hospital has experienced increasing deficits. In 1997/98 the predecessor hospitals recorded a combined operating deficit of $13.6 million. The operating deficit has continued to grow to $31.2 million in 1999/00 and the hospital currently projects an operating deficit of approximately $70 million for 2000/01. The hospital's working capital position is expected to continue to worsen, from a positive position of $39.4 million in 1996/97 to a projected deficit position of negative $145 million at the end of fiscal year 2000/01. In addition, the hospital has planned for facilities redevelopment to support the HSRCs directions for program realignment. The hospital estimates that the cost of the facility redevelopment will exceed $200 million.

1.2 Project Objectives

The overall objective of the review has been the development of a plan for strategic, management and operational improvements to the hospital. The goal is to achieve effective and efficient hospital services and a positive financial position for the hospital while continuing to respond to the health needs of the population and the academic needs of the U of O AHSC. Specifically, the review was intended to:

- Identify opportunities to:
  - strengthen governance and management
  - improve physician involvement in governance and management

  - improve the effectiveness of research and teaching roles
  - enhance innovation in clinical and operational processes
  - to improve clinical efficiency
  - improve productivity of departmental services
  - increase revenues
- Assess the impact of facilities on clinical and operational efficiency
- Assess the viability of the fiscal plan for capital redevelopment
- Establish priorities for realizing improvement opportunities in clinical, operational and financial processes
- Develop a plan for implementing improvements

1.3 Project Scope and Approach

1.3.1 Project Scope

The scope of the Project has focused on activities that address the need for the hospital to achieve a balanced budget and a more favourable working funds position as quickly as possible. The project has included the following major elements:

- Project Organization
- Review of Governance & Management
- Clinical Review of Programs and Services
- Review of Teaching & Research Activity
- Review of Departmental Operations and Costs
- Assessment of the Impact of Subsidiary Organizations
- Review of Capital Planning & Financing
- Review of Information Systems Acquisition and Implementation Activities
- Review of Finances, Financial Management and Funding
- Workshops to Review Findings
- Development of Recommendations

- Development of a Recovery Plan for Hospital

The major deliverable of this Review is this Report which:

- Analyzes the hospital's performance, costs and funding;
- Identifies opportunities for improvement in governance, management and operations;
- Summarizes cost savings opportunities;
- Determines the additional revenue requirements and
- Recommends actions and responsibilities to achieve recovery

The focus of the report is a plan that will enable the hospital to both continue meeting patient and academic needs and achieve a balanced financial position.

1.3.2 Approach to Project

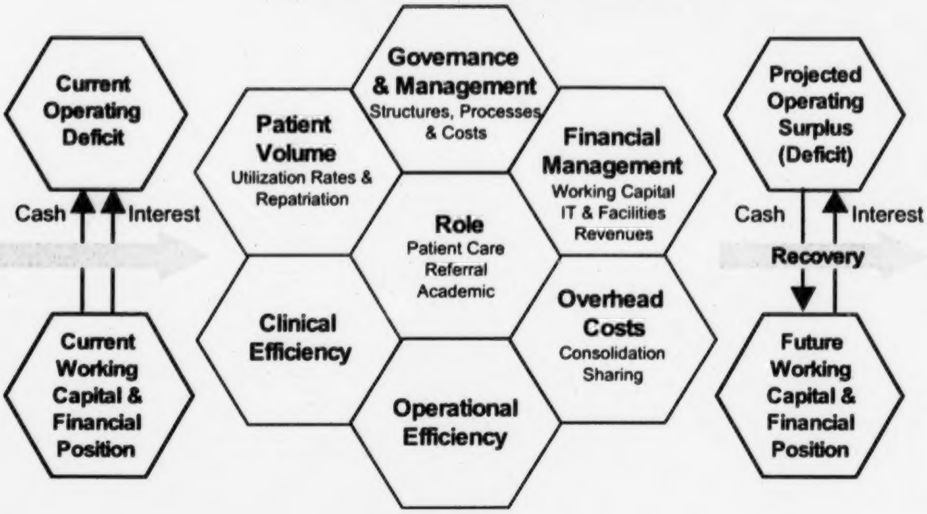
Our approach to this project has involved an integrated and iterative series of analyses focusing on understanding the

- Needs of the population for hospital care
- The response of the hospital to population needs
- The clinical and operational processes of the hospital
- The governance and management processes of the hospital
- The funding and finances of the hospital

In order to identify opportunities for improvement and develop a plan for the financial recovery of the organization.

This approach is presented schematically in the exhibit following.

Exhibit 1.1
Overview of Approach to the Operational Review and Clinical Audit of The Ottawa Hospital


Current Operating Deficit
Cash
Interest
Current Working Capital & Financial Position
Governance & Management
Structures, Processes & Costs
Patient Volume
Utilization Rates & Repatriation
Financial Management
Working Capital
IT & Facilities
Revenues
Role
Patient Care
Referral
Academic
Clinical Efficiency
Overhead Costs
Consolidation
Sharing
Operational Efficiency
Projected Operating Surplus (Deficit)
Cash
Interest
Recovery
Future Working Capital & Financial Position

1.4 *The Steering Committee*

The project was conducted by the consultants under the direction the Ministry of Health and Long-Term Care. The study received advice from a Steering Committee made up of representatives of The Ottawa Hospital, The University of Ottawa and the Ministry of Health and Long-term Care. The Steering Committee was responsible for directing the execution of the study and reviewing and commenting on interim and final reports. As the funder of the review, the Ministry of Health reserved for itself responsibility for defining and managing the scope of work to be conducted. The Ministry, in consultation with the hospital, selected a person who was considered to be independent of the interests of either the Ministry or the Hospital to serve as chair of the Steering Committee. The members of the Steering Committee were:

Independent Chair:

Hugh Scott	Executive Director, McGill University Health Centre

Hospital/University Representatives:

Nick Mulder	Board Chair
Maria Barrados	Board Member
David Levine	President and CEO

Dr. Chris Carruthers	Chief of Staff
Gino Picciano	Vice-President, Medicine, Mental Health, Family Practice; Vice-President, Strategic Planning and Development; Campus Operating Officer, Riverside Campus
Richard Wilson	Vice President, Finance
Wendy Nicklin	Vice-President, Nursing; Vice-President, Critical Care, Obstetrics and Gynecology; Campus Operating Officer, Civic Campus
Peter Walker	Dean, Faculty of Medicine, University of Ottawa

Ministry of Health and Long-Term Care Representative:

John King	ADM, Health Care Programs
Peter Finkle	Director, Eastern Region
Allison Stuart	Director, Hospital Programs
John McKinley	Director, Finance & Information Branch
David Stolte	Director, Health Reform Implementation Team
Andrew Gallardi	Information & Finance Manager, Eastern Region
Keith Rose	Physician Representative

Additionally, CEOs of other health care organizations were invited to participate on the Steering Committee as observers. And, staff of the Ministry and the hospital attended meetings of the committee to provide support and to remain informed of the progress and content of the review

Observers from Ottawa Health Care Providers:

Gary Cardiff	President and CEO, Children's Hospital of Eastern Ontario
Tom Schonberg	President and CEO, Queensway-Carleton Hospital
Suzanne McGlashan	CEO, Ottawa-Carleton Community Care Access Centre

Ministry of Health and Long-Term Care Support Staff:

Brian Malcolmson	Manager, Eastern Region
Jill Migliardi	Program Consultant, Eastern Region
Susan Engels	Hospital Consultant, Health Reform Implementation Team
Murray Glendining	Consultant, ADM Office, Health Care Programs
Bert Bacchus	RFP Coordinator, Eastern Region
Judy Ponti-Sgargi	Alternate Consultant, Eastern Region

The Ottawa Hospital Support Staff:

Denis St. Jean	VP, Communications
Suzanne Dionne	Director, Decision Support
Russel Armstrong	Director, Executive Services

2.0 The Ottawa Hospital

2.1 Characteristics of Founding Institutions of the Ottawa Hospital

The Ottawa Hospital came into being on April 1, 1998. It was the result of the merger of the Ottawa Civic Hospital, the Ottawa General Hospital and the Riverside Hospital. It was also the result of program transfers due to the closure of the Salvation Army Grace Hospital. The merger also affected the operations of the University of Ottawa Heart Institute (located adjacent to the Ottawa Civic Hospital), the Rehabilitation Centre (belonging to the Royal Ottawa Health Care Group and located adjacent to the Ottawa General Hospital), and the Ottawa Regional Cancer Centre (which had operations at both the Civic and General Hospital locations). The merger brought together institutions that had profoundly different histories, cultures and operating characteristics. Below is a brief account of the institutions involved in and affected by the merger:

Ottawa General Hospital

The Ottawa General Hospital was a tertiary academic centre, located in the eastern part of the city. The new facilities for OGH were built in 1980 to replace the hospital's original buildings on Bruyere Street. The OGH operated as a bilingual hospital and served a significant proportion of the region's francophone population. At the time of restructuring, OGH operated 444 acute adult inpatient beds and 45 acute mental health beds. The separation rate was 89.42 per 1000 referral population. The activity of OGH included the University of Ottawa Eye Institute, a regional tertiary centre for ophthalmology. The OGH also supported the activity of its own health research institute.

OGH is located on the same site as the Children's Hospital of Eastern Ontario and the Faculty of Health Sciences of the University of Ottawa.

Ottawa Civic Hospital

The origins of the Ottawa Civic Hospital date from 1924. At the time of the merger, it was a tertiary academic centre located in the western part of the city within a large anglophone neighbourhood. At the time of restructuring, OCH operated 660 acute adult inpatient beds and 40 acute mental health beds. The separation rate was 91.74 per 1000 referral population. This included the activity of University of Ottawa Heart Institute, a regional tertiary cardiac care centre with 118 adult inpatient beds. The OCH also supported the activity of the Loeb Health Research Institute located adjacent to the hospital.

Riverside Hospital

The Riverside Hospital was opened in 1967. It operated as a community hospital serving a small catchment area in the city's south-eastern region. At the time of restructuring, the RH operated 238 acute adult inpatient beds. The separation rate was 85.07 per 1000 referral population.

Salvation Army Grace Hospital

The origins of the Salvation Army Grace Hospital date from 1922. It operated as a small community hospital serving the city's western region. Its largest programs were labour and delivery and ophthalmology. At the time of restructuring, the SAGH operated 108 acute adult inpatient beds. The separation rate was 87.11 per 1000 referral population.

Royal Ottawa Healthcare Group-The Royal Ottawa Hospital

The origins of the Royal Ottawa Healthcare Group (ROHG) date to 1910 with the establishment of the Royal Ottawa Hospital, an inpatient mental health facility. At the time of restructuring, the ROH operated 179 inpatient mental health beds along with a variety of outpatient and community-based programs, including a psychiatric emergency department.

Royal Ottawa Healthcare Group-The Rehabilitation Centre

ROGH also operated The Rehabilitation Centre (TRC), an inpatient rehabilitation facility located adjacent to the Ottawa General Hospital. At the time of restructuring, TRC operated 74 inpatient rehabilitation beds.

Ottawa Regional Cancer Centre

At the time of the merger, the Ottawa Regional Cancer Centre supported outpatient assessment, referral and chemotherapy services in its own facilities located at both the Ottawa Civic Hospital and the Ottawa General Hospital.

2.2 Healthcare Restructuring in Ottawa Carleton

Attempts to reorganize hospital services in the Ottawa-Carleton region began before the establishment of the provincially mandated Health Services Restructuring Commission.

Early Restructuring Efforts

In 1994, the Ottawa-Carleton District Health Council was given a two-year mandate to develop recommendations with respect to reconfiguring health services within the region. Their report was released in June, 1996, and recommended, among other things:

- a merger of the Ottawa General and Ottawa Civic Hospitals with a consolidation of tertiary services on one site or the other;
- a more focussed role for the Riverside and Salvation Army Grace Hospitals; and,
- an increase in support for the distinct role played regionally and provincially by the Hôpital Montfort.

Health Service Restructuring Commission

The creation of the Health Services Restructuring Commission replaced the OCDHC initiative. The HSRC began its work in Ottawa-Carleton in 1996. The HSRC released its final report for acute care hospitals in the region in August, 1997. The main HSRC directives related to the Ottawa Hospital were as follows:

- Amalgamate the Ottawa General, Ottawa Civic and Riverside Hospitals under one corporation by December 31, 1998;
- Develop and implement a plan to consolidate all hospital services on the General and Civic Campuses by August 31, 1998 (amended to December 31, 1998);
- Transfer services and close the Riverside Hospital, including its Emergency Department, by June, 1998 (amended to March 31, 1999);
- Transfer all programs from the Salvation Army Grace Hospital, except those associate with obstetrics, gynecology and newborns, by May 31, 1998 (amended to September 30, 1998);
- Transfer all inpatient programs from the Hôpital Montfort, except those associated with acute mental health and obstetrics, to the General Campus of the Ottawa Hospital by May 31, 1998 (amended to August 31, 1998);
- By August 31, 1998, consolidate most tertiary services at the General Campus;
- Develop and implement a plan to operate 1111 acute care beds, 99 acute mental health beds for adult patients, 53 regional rehabilitation beds and 48 local short-term rehabilitation beds. In a letter dated April 23, 1999, the HSRC corrected the total bed configuration (from March 1999) to be 1,381 beds. This represents 1,111 acute, 83 acute mental health, 38 regional rehabilitation, 36 local long-term rehabilitation, 33 local short-term rehabilitation and 80 sub-acute beds;

- Renovate the emergency department, ambulatory care areas and surgical areas at the Civic Campus;
- Renovate the emergency department, ambulatory care areas, operating rooms, surgical day care, birthing rooms, critical care and diagnostic imaging areas at the General Campus.

The Ottawa Hospital responded to these directives with a proposal to preserve the Riverside Hospital site as an ambulatory care centre. The hospital claimed that its proposal would provide some savings to the estimated capital requirements to achieve the HSRC directives. During the time that the dialogue occurred with the HSRC regarding this alternate proposal, further directives were issued by the HSRC with respect to mental health and rehabilitation services. The HSRC released its final set of amended directives for the Ottawa Hospital in March, 1999. They included the following:

- Approval to proceed with a three-campus model for the Ottawa Hospital including the Riverside Ambulatory Care Centre;
- A requirement to seek designation under the French Language Services Act for the General Campus, the Riverside Campus, the Rehabilitation Centre and the University of Ottawa Heart Institute by March 31, 1999;
- A requirement to establish the University of Ottawa Heart Institute as a subsidiary corporation of the Ottawa Hospital by April 30, 1999; and,
- A requirement to transfer The Rehabilitation Centre from the Royal Ottawa Health Care Group to the Ottawa Hospital and establish it as a subsidiary corporation of the hospital by April 30, 1999.

Also, as result of changes in the role of the Royal Ottawa Hospital, the Ottawa Hospital agreed to absorb the ROH psychiatric emergency services program.

Creating the New Ottawa Hospital

Community reaction to the HSRC directives was mixed. Although there was considerable support in the community for the merger and restructuring there was also considerable concern regarding the potential relocation of programs and services from one site to another. Also, the proposed merger of the Ottawa Civic and Ottawa General Hospitals inflamed existing linguistic and cultural tensions between the east and west regions of the city. These tensions exploded with the appointment of David Levine as President and CEO of the Ottawa Hospital in the spring of 1998. Mr. Levine was from Quebec and had recently been an employee of the provincial government in Quebec.

Despite these community tensions, a steering committee was formed in 1997 to begin the merger process. The Ottawa Hospital formally came into existence on April 1, 1998. The merger was based on a number of major accomplishments, of the Steering Committee and the merging organizations including:

- The creation of a single governance structure supported by the former boards of the founding hospitals;
- The creation of a single medical staff structure governed by a Transitional Medical Advisory Committee;
- The approval by the founding board of the Ottawa Hospital of a corporate mission statement and both administrative and medical staff by-laws;
- The establishment of a corporate wide clinical planning structure to guide the required hospital closures, program transfers, and reorganization of tertiary services within the Ottawa Hospital;
- The appointment of one corporate-wide senior management team by September, 1998 and one corporate-wide management structure by December, 1998; and,
- The appointment medical staff Department Heads and Division Chiefs by the end of 1998.

Significant Challenges Faced by the Newly Merged Hospital

The newly merged organization faced significant challenges, including:

- The merger of organizations with significantly different cultural and linguistic traditions including anglophone/francophone, protestant/catholic, community/tertiary academic;
- Sensitivity in the community over the potential implications of the merger for the alignment of programs and services within Ottawa;
- The requirement to seek formal bilingual designation within a short time frame in order to allay strong community concerns that access to French language service would be reduced by the merger;

- The integration of community and academic physicians within one medical practice organization;
- Significant turnover in senior executives and the loss of corporate memory at the senior management level;
- Significant staff turnover leading to a major loss of skill and expertise across all areas of the organization;
- A number of pre-existing, unresolved human resource issues;
- Information systems with significant legacy issues and no previous planning or discussion regarding integration;
- Integration of information systems and equipment planning and implementation for Y2K;
- Aging facilities;
- Short timelines to accomplish hospital closures and major program transfers;
- The need to integrate foundations, auxiliaries, and research institutes in order to align them with the newly merged corporate structure; and,
- The need to establish relationships with the University of Ottawa Heart Institute and The Rehabilitation Center of the Royal Ottawa Hospital Care Group within short time frames.

Significant Accomplishments Since the Merger

Since the merger in April 1, 1998, The Ottawa Hospital has worked hard to integrate the staff, programs, services, finances, systems and facilities of the predecessor organizations. Accomplishments since the merger include:

- Implementation of the new corporate structure (board of trustees, senior management, medical department head and division chiefs, directors, managers) by December, 1998;
- Integration of physicians from the Riverside Hospital and the Salvation Army Grace Hospital, with no reduction in privileges, within a tertiary academic environment;
- Transfer of the SAGH's ophthalmology program and consolidation of outpatient ophthalmology services from the Civic Campus to newly renovated facilities at the Riverside Campus;
- Closure of inpatient beds at the Riverside Hospital by April 30, 1999 (including transfer of staff, programs and equipment as directed by HSRC);

- Conversion of the former Riverside Hospital emergency room to the Riverside Acute Care Medical Centre by May 2000;
- Completion of a number of priority projects in 1998 and 1999 including renovations/additions to labour and delivery facilities at both inpatient campuses, addition of 40 new beds to the General Campus, construction of a Coronary Care Unit at the General Campus;
- Consolidation of some tertiary services at one inpatient campus or the other (Medical Oncology (General Campus) in 1998; inpatient Ophthalmology (General Campus) in 1999; Vascular Surgery (Civic Campus) in 2000; inpatient Nephrology (General Campus) in 2000). Further consolidations are in the planning stages including Trauma, Neurosciences and Thoracic Surgery/Respirology;
- Fully implemented Y2K preparedness plan and progress toward integration of information systems across the three campuses;
- Successful consolidation of unions (ONA, CUPE, OPSEU) and progress toward new collective agreements;
- Support for the development of Network 7B with Winchester and Hawkesbury hospitals;
- Amalgamation of previous fundraising entities into a single Ottawa Hospital Foundation as of May, 1999;
- Amalgamation of previous research institutes into a single Ottawa Health Research Institute to be launched on April 1, 2001;
- Transfer of Psychiatric Emergency Services from the Royal Ottawa Hospital to the Ottawa Hospital as of October 2000.

2.3 The Ottawa Hospital Today

The Ottawa Hospital today is one of the largest tertiary academic centres in Canada. It functions on three sites. The General and Civic Campuses provide of all of the inpatient services of the Ottawa Hospital. The hospital plans to relocate a significant proportion of its ambulatory programs to the Riverside Campus.

In fiscal 1999/2000, the hospital operated 932 acute adult inpatient beds. During that year, the hospital had 55,395 separations representing 93,858 weighted cases and 394, 161 patient days. Over the same period, the hospital performed 43,061 same-day surgical procedures. There were 139,244 visits to the Civic and General Emergency Departments and the Riverside Acute Care Medical Centre. In addition, there were approximately 1,000,000 visits for ambulatory care clinics and diagnostic imaging procedures.

The University of Ottawa Heart Institute functions as a subsidiary corporation of the hospital. The hospital also has collaborative agreements with the Ottawa Regional Cancer Centre.

The Ottawa Hospital has concluded a framework agreement with the 7B rural hospital network. Discussions are underway to establish a similar agreement with the 7A network.

As an academic facility, the hospital is closely allied with the University of Ottawa, in particular the Faculty of Medicine and the Faculty of Health Sciences. The hospital has a collaborative agreement with newly launched Ottawa Health Research Institute.

The Ottawa Hospital has a 28-member Board of Trustees, a hospital staff of 8,900 (3,100 nurses) and a medical staff of 1,200. In 1999/2000, there were 680 residents and interns. During the year, 350 medical students and 775 student nurses also completed training at the hospital.

Populations Served by The Ottawa Hospital

The Ottawa Hospital is located within the newly amalgamated City of Ottawa. The population for the new City of Ottawa is estimated at 773,230 for the year 2000.

Ottawa-area hospitals serve a large referral population estimated to be 963,034 for the year 2000. 25.2% of the Ottawa Hospital's annual volume is related to residents of communities outside of the City of Ottawa. The Ottawa Hospital is an important provider of secondary and tertiary care for residents of Hull and the surrounding region. Approximately 5% of inpatient and Ambulatory Surgery care of The Ottawa Hospital are provided to residents of Quebec.

Approximately 18% of the population of the City of Ottawa are francophone. This is 23% of the provincial francophone population. When the referral population is included, the percentage of Ontario's francophone community served by the Ottawa Hospital is much higher. This places a significant obligation on the hospital to provide services in both official languages.

In 1997, the population growth for the region served by the Ottawa Hospital was estimated at 14% over a 5-year period. However, the recent influx of technology and other 'new economy' businesses into the region has prompted of review of growth projections. It is anticipated that actual growth will be significantly higher. Similar to other regions in the province, there are higher growth rates in demographic groups that place high rates of demand on hospital services, in particular people between 45-64 and those over 75 years.

3.0 Governance and Management

3.1 The Province and the Hospital

Hospitals in Ontario are significantly dependent on the provincial government for their operating and capital funds. The public holds the provincial government accountable for the funding, organization, delivery and, to a large extent, the quality of hospital services. However, the hospital is a private entity, owned by the hospital's corporation, and governed by an independent board of governors. Because of the public's perspective and the amount of public funds being provided to hospitals, the government has increasingly stressed the accountability of hospitals and hospital boards for their use of these public funds and for the effectiveness, efficiency and the long-term viability of hospitals.

Although the government holds hospital boards accountable, it has also allowed them to operate with a great deal of independence and latitude to respond, as best they can, to the interests and needs of their communities. The position of the government is that once it has agreed with the hospital's general program, it remains at 'arms length' from the hospital's day-to-day activities unless and until a major issue occurs. At that point the Ministry has the right and the power to intervene as it deems appropriate. The types of intervention available to the government include:

- Audit to verify and determine the scope of the issue
- Operational Review to confirm the scope of the problem and to determine the feasibility of remedying the problem
- Investigation to provide a formal report "on the quality of the management and administration of a hospital and the quality of the care and treatment of patients in the hospital.[15]"
- Supervision to "give advice and guidance to the board and the administrator of the hospital for the purposes of improving the quality of the management and administration of the hospital and the care and treatment of patients in the hospital." If necessary, in the opinion of the Supervisor, the hospital supervisor may "act on behalf of the board or the members of the corporation and the act is

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[15] Public Hospitals Act, April 1990, Article 7a.

> as effective as if done by the board or the members of the corporation." And "during the term of office of a hospital supervisor...no act of the board of the hospital is valid unless approved in writing by the hospital supervisor.[16]"

"The Ministry of Health...is responsible for determining and ensuring a planned and coordinated system of health care. The hospital's responsibilities are to manage and deliver its mandated services in the most effective and efficient manner it can, to optimize the use of the resources available to it and to strive continuously to improve the availability and quality of its services. The hospital defines its mandate within the framework established by the Ministry of Health.[17]"

3.2 Hospital Governance

Governance[18] is the exercise by the hospital's board of directors of authority, direction and control over the hospital. Fundamental responsibilities of governance are:

- defining the purposes, principles, and objectives of hospital
- ensuring and monitoring the quality of hospital services
- ensuring fiscal integrity and long-term future of hospital
- arranging for and monitoring the effectiveness of the hospital's management
- approving annual operating plans and budgets of hospital

The board of a hospital is directly accountable to the corporation of the hospital. The board and corporation are accountable to the patients and communities served by the hospital, to the provincial government that funds the hospital on behalf of these patients and communities as well as to staff of the hospital.

The hospital board and the fiscal integrity of the hospital

A fundamental responsibility of the hospital board is the fiscal integrity of the hospital and its long-term solvency. It is accountable to:

- the hospital's corporation,

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[16] Ibid.

[17] From "Into the 21st Century: Ontario's Public Hospitals, Report of the Steering Committee, Public Hospitals Act Review, Ontario Ministry of Health, Toronto, Ontario, February, 1992.

[18] Ibid.

- the community and
- the province acting on behalf of that community

for the long-term viability of the hospital. The board should be monitoring and ensuring the effective fiscal management of the hospital. The fiscal solvency of the hospital is critical to its ability to respond to the care requirements of the community. Hospital boards that allow the hospital's debt to exceed the its ability to repay that debt are putting the hospital, its ability to provide service to the community and the health of the community at risk. This is not good or reasonable stewardship of public and charitable funds and is not in keeping with the board's and the hospital corporation's long-term obligations to its community. If a hospital board puts the long-term solvency and viability of a hospital at risk, it is incumbent on the provincial government to take action in the interest of the local community and the province as a whole. If lesser actions are unsuccessful in correcting the situation, it may be necessary for the government to assume ownership and governance responsibility for the hospital through the appointment of a supervisor under the terms and conditions set out for a hospital supervisor under the Public Hospitals Act.

3.3 Governance of The Ottawa Hospital

The following paragraphs provide a brief description and evaluation of the ownership and governance structures and processes of The Ottawa Hospital.

3.3.1 The Ottawa Hospital Corporation

A hospital is accountable to the community served as reflected and represented by the hospital corporation. The Ottawa Hospital Corporation is made up of[19]:

- Volunteer Members: Any individual "who was an active volunteer of a Volunteer Association (related to the hospital) in the prior calendar year and whose name appears on the list submitted by the Volunteer Association….and who has returned the signed membership registration card to the Secretary."
- Foundation Members: Individuals or Business Entities who were "issued tax receipts by a Foundation in the aggregate of at least $25.00 in the prior calendar

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[19] The Ottawa Hospital Administrative By-law, June 14, 2000.

year....and who has returned the signed membership registration care to the Secretary."

- Trustees of any of the OCH, OGH, RH and SAG during any of the 3 calendar years ending prior to the most recent annual meeting.
- Trustees of The Ottawa Hospital[20]

Although this provides for a large corporation, the membership is open to all those who demonstrate an interest in the hospital through their voluntary support for it. Also, this provides for a membership in the hospital corporation that can be reflective of communities served by and interested in the hospital.

3.3.2 Composition and Size of Board

The current board of The Ottawa hospital is composed of 28 Members: 20 Elected Members and 8 Ex-officio Members. The ex-officio members are:

- President of Medical Staff Association (by statute)
- Vice President of Medical Staff Association (by statute)
- Chief of Staff (by statute)
- President of The Ottawa Hospital
- Ottawa Hospital Auxiliaries Representative
- Ottawa Hospital Foundation Representative
- Dean, Faculty of Medicine, University of Ottawa
- Dean Faculty of Health Sciences, University of Ottawa

The size of the Board has been reduced from 32 members at the inception of the hospital. The bylaws of the hospital provide for the final board size to be 26 members: 18 elected and 8 ex-officio).

The current and future size of the board is relatively large. There are several potential pitfalls of a large board:

- The size of the board might be expected to reduce the effectiveness of its deliberation and decision making.

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[20] The Ottawa Hospital Administrative By-law, June 14, 2000, 14 (4).

- The size might also make it difficult for the board to demonstrate strong and decisive leadership of the organization.

The current board of The Ottawa Hospital has successfully dealt with these potential pitfalls. With increasingly effective delegation of responsibility for investigation and debate of issues to its committees, the large number of Trustees does not appear to be impeding the effective functioning of the Board of the Ottawa Hospital. If the board is to continue to function effectively, it will be important to continue and expand the delegation of work to committees of the board.

3.3.3 Board Nomination and Election

The Ottawa Hospital has a relatively complicated process for election to the Board of Trustees. However, it is an extremely open and democratic process. It makes the trustees truly and visibly accountable to the members of the corporation.

The bylaws of the hospital[21] instruct the Nominations Committee to be guided by a set of principles, qualities and skill requirements when considering candidates for election to the board:

- Capable, experienced and able to lead the hospital
- Reflecting a wide range of interests and perspectives
- At least 1/3 of the elected board shall be from the francophone community
- The elected board shall achieve gender balance
- Ensure representation from outside Regional Municipality of Ottawa Carleton
- Representative of communities served with regard to their demographic, linguistic, cultural, economic, geographic, ethnic, religious and social characteristics.

Paraphrasing the bylaws of the corporation, the process for election to the Board follows the following steps.

1. The Nominations Committee (NC) is formed consisting of 3 Trustees and 5 persons representing the community nominated by the Governance Committee of the Board and

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[21] The Ottawa Hospital Administrative By-law, June 14, 2000, 14.

"who are eligible to vote upon resolutions introduced by the Nomination Committee[22]"

2. NC Advertises/Publishes a 'Call for Candidates'
3. NC prepares a 'Preliminary Slate' of candidates from those who respond to the advertisement and others made known to the committee.
4. The preliminary slate must be at least equal to the number of vacancies on the board plus two persons.
5. The chair of the nominations committee will distribute the 'Preliminary Slate' to all members of the corporation by mail
6. The members of the corporation select those persons on the preliminary slate that s/he wants to be on the Final Slate (by mail, fax, e-mail, etc. as determined by Nominations Committee).
7. The Nominations Committee will consider the results of the voting by the members and prepare a 'Final Slate'. The Nominations Committee is not bound by the voting of the membership; ....it "shall have final discretion with respect to the selection of the Final Slate[23]."
8. The Nominations Committee presents its final slate to the annual meeting for acceptance or rejection.
9. At the annual meeting of members, the members shall either elect the Final Slate or refuse to elect the final slate[24]
10. Where the members fail to elect the Final Slate, the Board will fill the vacancies using the procedures established for filling mid-term vacancies in the board. (The Final slate of Nominations Committee can be made to achieve targets for gender balance and francophone representation.)

To be successful, this process requires that all nominees have the interests, skills, experience and characteristics required by the board. Also, the potential nominees need to be willing to stand for election; and they need to be willing to lose. Given the potential embarrassment of a loss in an election to the board of the hospital; the process that requires election by the membership to the slate of candidates may diminish the enthusiasm of higher profile members of the communities served by the hospital to serve on the hospital board.

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[22] The Ottawa Hospital Administrative By-lay, June 14, 2000, 32, G (1).

[23] The Ottawa Hospital Administrative By-lay, June 14, 2000, 15 (7).

[24] The Ottawa Hospital Administrative By-lay, June 14, 2000 3 (5).

However, this is a very effective mechanism to obtain input from the membership of the hospital's corporation to the nomination process. Although not in control, the membership can be extremely influential in determining the slate of nominees for election to the Board.

The Nominations Committee, as constituted by the bylaws, has a majority of its members who are not members of the Board or members of the hospital's corporation. We question the advisability of this structure. Given the importance to the success of the organization of the characteristics, interests, skills and experience of board members, we do not feel that it is appropriate for non-members of the corporation to form a majority on the Nominations Committee. Also, given the power of the Nominations Committee to over-ride the vote of members of the hospital's corporation, we do not feel that it is appropriate to have a majority of non-members on the Nominations committee.

It is recommended that:

(1) The Governance Committee of the Board of Trustees should rewrite the hospital's bylaws to ensure that board members form a majority of the members of the Nominations Committee.

3.3.4 Board Orientation

The Hospital provides a comprehensive orientation program for new board members supported by an orientation manual. This is an excellent resource that prepares board members for their role and responsibilities.

Also, there is a Board Education session related to an issue that is topical to the hospital or the health sector at the beginning of each board meeting.

3.3.5 Committee Structures & Processes

There are 7 Standing Committees of the Board:

- Executive
- Communications
- Finance

- Governance
- Nominations
- Planning & Facilities
- Quality

Each board member must serve on at least one standing committee. The voting Members of standing committees are restricted to members of the board. Although others can participate as non-voting members, only board members can vote on items to be recommended to the board for adoption by the Hospital. This restriction places a heavy burden on Board members to participate in committees. If each committee (with the exception of the Nominations Committee, which is restricted to 3 board members) is to have at least 8 voting members, (which is a reasonable minimum to ensure a quorum at each meeting and diversity of opinion in committee deliberations) than almost all of the 28 board members must serve on at least 2 standing committees of the board. When the number of board members is reduced to 26, then all but one board member will need to serve on two standing committees. This is a large commitment to ask of volunteers, many of whom will be actively involved in other voluntary activities as well as their business and personal activities. If they are unable to fulfill this requirement to serve on and attend board committees, then the affairs of the hospital may suffer as a result.

We encourage the hospital to allow a minority of community members (non-board members) to serve as voting members of the board's standing committees. This will reduce the reliance on board members to populate all of the board's committees thus reducing their hospital workload and allowing them to focus on a smaller number of areas. Also, it will develop a cadre of people who are familiar with the hospital and workings of the board who can stand as candidates for election to the board.

Additionally the Board has three Advisory Committees:

- Medical Advisory (By statute)
- Community Advisory
- Fiscal Advisory (By regulation)

3.3.6 Committee Processes

A significant amount of the work of the board is being delegated, appropriately, to the standing committees of the board. The committees review information and debate issues more comprehensively than could be achieved by the full board. As it has gained more experience with this approach to governance, consideration of the work of committees by the board has improved significantly. Currently, standing committees:

- Report their recommendations for board action
- Support their recommendations with documentation of issues and discussions that took place at the committee level
- The committees also provide the detailed minutes of their meetings for the information of the full board
- Except in unusual circumstances, these processes and practices are minimizing the need for the full board to reconsider and re-debate issues that have been dealt with at the committee level
- Board members will ask the subcommittee to clarify facts, issues and recommendations; they don't repeat the debate that has already taken place at the subcommittee level.
- The board will then vote on the recommendation of the Committee, accepting or rejecting the recommendation as appropriate.

This approach to deliberation and decision-making makes Board meetings more efficient. It allows the full board to focus its deliberations on the most critical issues.

3.3.7 Defining & Maintaining Purposes & Principles of Hospital

The health care industry has clearly recognized the importance for hospitals to develop coherent sets of objectives and plans. Planning is recognized as a critical component of hospital governance and management. Hospitals should develop plans in response to the needs of the community and in collaboration with the community and other health care and social service agencies. Effective hospital planning should include the following elements:

- Identifying the communities to be served by the hospital

- Establishing the objectives for the hospital (Vision, Mission and Core Values)
- Selecting the health needs of the composite community that might be appropriately served by the hospital (Role Statement)
- Defining and describing the programs and services required to be offered by the hospital to respond to the health needs of the population and achieve the hospital's objectives. (Long-Range Plan)
- Detailing plans for implementing the program and service goals of the long-range plan and thus achieving the Vision and fulfilling the Mission of the hospital.(Strategic Plan)
- Translating the objectives, plans and strategies into specific activities to be initiated in the next fiscal year (Operational Plan)

We believe that a Vision/Mission Statement, Role Statement, Long Range Plan and Strategic Plan are critical to the successful governance and management of a hospital. Decision-making in the absence of clearly articulated Long-Range and Strategic Plans are often uncoordinated and inconsistent. The complexity of a hospital and its levels of governance and management require that decisions must be made with reference to a set of long-term objectives (Vision/Mission/Role) and a plan for achieving these objectives (Long-Range and Strategic Plans) that are generally accepted by the critical hospital stakeholders. These documents provide a framework for annual operational planning and budgeting. If prepared through the collaboration of the board, the medical staff, management and hospital staff and in consultation with the community and other health care agencies, they can become the basis for clear communication of the hospital's priorities and for collaborative and supportive actions to achieve the hospital's objectives.

In keeping with the need to distinguish between governance and management, organizational objectives and long-range goals for programs and services should be considered primarily a responsibility of governance; strategies and operational plans for achieving these objectives and goals should be considered primarily a responsibility of management. Although primarily a responsibility of governance, it is unrealistic to expect that boards can or should develop long range objectives or plans independently.

Although led by the board, management staff of the hospital will support the development of these statements and plans.

Long Range Objectives: the Hospitals' Vision and Mission

The hospital's Vision, Mission and Core Values statements were established by The Ottawa Hospital Steering Committee set up to guide the merger of the predecessor hospitals. It was published on April 1, 1998 over signatures of board chairs of predecessor organizations and of The Ottawa Hospital. As recommended by the Steering Committee, these statements were reviewed two years after the creation of the Hospital and were reaffirmed at the meeting of the Board on March 27, 2000.

Appropriately, since the merger the planning activities of the Board have focused on integrating the programs and services of the predecessor organizations. It has led to the adoption of the 3 campus, balanced model for organizing and delivering hospital programs and services as the framework for program and service integration to form The Ottawa Hospital.

However, the hospital has not as yet formally articulated its desired role in responding to the health needs of the community nor developed long-range or strategic plans to guide its future growth and development. In directing the merger process it has relied on the role for the hospital implied by its Mission Statement and the program composition suggested by the HSRC. With the planning for program realignment and the necessary facilities to accommodate the merger almost complete, it is time for the hospital to begin to contemplate its longer-term future.

However, the Planning and Facilities Committee will have a significant amount of work in fulfilling its responsibilities during the construction and renovation of hospital facilities. It will likely not be able to give sufficient attention to both its planning and facilities responsibilities. The Board should consider splitting the committee into two, with one committee focusing on planning and the other focusing on facilities.

It is recommended that:

(2) The Board Chair should split the Planning and Facilities Committee into a Planning Committee and a Facilities Committee.

(3) The Planning Committee should initiate a process to develop a role statement and long range plan for the hospital.

3.3.8 Ensuring & Monitoring Effective Management & Financial Health

The Board's involvement in directing the hospital's operational planning, budgeting and management reporting to the Board have been hampered by turnover in the CFO position. Since the creation of the Ottawa Hospital in April 1998, there have been three CFOs. The stability brought by the new CFO should allow the hospital to improve its financial management processes.

For the board of a hospital to exercise its responsibility in ensuring effective management and the financial health of the hospital, there must be strong processes for operational planning and budgeting and for reporting on progress in achieving these plans and budgets.

3.3.8.1 Operational Planning and Budgeting

A hospital board should start the operational planning process by drawing from the hospital's long-range plan to set the annual objectives for the organization and to define the parameters for operational planning and budgeting. The board must take the initiative in setting goals and initial targets for the size of the hospital's operating surplus or loss for the coming year. Budget targets should take into account the Board's responsibility to ensure the current and future financial health of the hospital. The Board should then critically review and approve the operating plan and budget developed by management to achieve its objectives and to accommodate its budget parameters. If the hospital's resources are insufficient to implement the hospital's plans, then the Board must take responsibility for directing management to defer initiatives, suggest alternative strategies for achieving the hospital's vision or, if necessary, to rethink the vision for the organization.

As discussed below, The Ottawa Hospital board is setting annual objectives for the organization. And the board is actively involved in reviewing and then approving the operating plan and budget for the hospital. But, the board's strategy in dealing with hospital's operating losses (budgeting for operating losses and accepting costs and losses that exceed its budgets) has put the financial health of the hospital in jeopardy.

Operating Plan and Budget for 1998/99

There was no formal operating plan prepared for 1998/99, which was the first year of operation for the merged entity. The Steering Committee for the hospital directed the budgeting process. The budget forecasted a loss of $30.6 million[25] from hospital operations (including the Heart Institute) and this was reviewed, discussed and debated by the board, during June of 1998. The board approved the budget at its meeting on June 29, 1998. The documented discussion indicates that the board had significant misgivings about approving a plan that would result in significant operating losses.

The original budget (excluding the Heart Institute) was based on expected operating revenues of $397 million and operating expenses of $428 million[26]. During the year, the board monitored the actual performance of the hospital.

During 1998/99 although the hospital's spending (excluding the Heart Institute) exceeded its plan by $7 million, its operating revenues were $10 million more than forecast. As a result the hospital's operating loss was not as large as budgeted. The hospital's loss from operations was $28.3 million. Additionally, although the hospital spent $8.5 million in unbudgeted restructuring expenses it received $14.7 million in reimbursement for restructuring costs of previous years leaving it with a surplus from restructuring of $6.2 million. Thus the hospital's losses from both operations and restructuring were $22.1 million[27].

Operating Plan & Budget for 1999/00

The board actively reviewed the operating plan and budget for 1999/00 prepared by management. The board approved an operating plan and budget (excluding the Heart Institute) that would result in a loss from operations and restructuring of $13.87 million[28]. The operating budget was based on expected operating revenues of $422 million and operating expenses of $429.9 million. The restructuring budget was based on revenues of $7.6 million and restructuring expenses of $9 million. In reviewing the operating plan and budget, the board began to formally adopt the position that the hospital's operating cost problems were because of shortfalls in revenue rather than patient volume or operating cost issues. The presentation to the board explicitly referenced "funding inequity related to Quebec patients and the revenue received from the Ministry of Health being less than that of peer hospitals...." The Board passed a Motion entitled "Unfairness Allocation of Funding" that stated: "that The Ottawa Hospital increase the level of intervention addressing the unfairness and inequity of the Ministry of Health's funding as a percentage of total revenues for The Ottawa Hospital as outlined in the 1999/2000 Operating Plan."

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[25] The Ottawa Hospital 1999/00 Operating Plan, June 1999. Page 48.

[26] The Ottawa Hospital 1999/00 Operating Plan, June 1999. Page 48 (If the Heart Institute were included, the forecasted revenues were $463 million and the budgeted expenses were $93.6 million which would leave a loss from operations of $30.6 million.)

[27] The Ottawa Hospital 2000/01 Operating Plan, June 2000, Page 55. (If the Heart Institute were included, the loss from operations was $30.6 million, and the restructuring surplus was $6.2 million).

[28] Finance Committee Minutes June 15, 1999, 3.2.

However, the hospital's budget significantly underestimated the losses for the year. The hospital experienced a loss from operations in 1999/00 of $35 million[29]. Operating revenues were $433.8 million or $11.8 million more than forecast. Operating expenses were $464.8 million or $34.9 million more than budgeted. Restructuring revenues were $9.3 million or $1.7 million more than budgeted, but restructuring expenses were $13.1 million or $4.1 million more than budgeted[30].

Although the board was monitoring the hospital's performance in relation to budget, spending was allowed to exceed plan without providing any direction for corrective action. And although there were uncontrollable events that caused much of the variance from budgeted expenditures (e.g. unbudgeted expenses of $4 million related to the transfer of programs from the SA Grace hospital[31], unbudgeted accruals for wage settlements[32] of almost $13 million[33]) there were some variances that might have been controllable. For example, labour hours exceeded plan by over 250,000 hours[34]. And the board did not ask management to explore opportunities to further improve the hospital's clinical or operational efficiency.

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[29] The Ottawa Hospital, 2000/01 Quarterly Report for the 2nd Quarter, November 1, 2000.

[30] The Ottawa Hospital 2000/01 Operating Plan and The Ottawa Hospital, 2000/01 Quarterly Report for the 2nd Quarter, November 1, 2000.

[31] It should be noted that the impact of transferring activity from SA Grace was knowingly left out of the budget because these expenses were be substantially if not fully covered by Ministry of Health revenues transferred from the SA Grace.

[32] The hospital reports that the Board received informal advice from a senior official of the Ministry of Health and Long-Term Care that it should not include an accrual for wage settlements in its operating plan. We question the hospital's wisdom in following this advice.

[33] The Ottawa Hospital Draft Operating Results for the Year Ending March 31, as submitted to the April 25 meeting of the Finance Committee

It must be noted that the board was increasingly uncomfortable with the hospital's deteriorating financial position. Indicative of the concern of the Board is a letter from the Board Chair to the Minister of Health in January of 2000.

Operating Plan and Budget for 2000/01

In response to a request from management, the Board acted to set parameters for development of the 2000/01 operating plan and budget. Based on a report from the CFO that "...confirms that The Ottawa Hospital is under-funded by approximately $10 million as compared to our peer hospitals. The members agreed that we need to balance our books and realistically cannot count on more than an additional $10 million from the Ministry of Health (the $10 million represents the approximate inequity funding position).[35]" The Board stated "that the 2000/01 Operating Plan process should result in a balanced budget assuming that the Ministry of Health will fund an additional $10 million[36]."

In February, the hospital continued to explore the issue of equity in its funding from the Ministry of Health and Long-Term Care. The Board passed a motion that it titled "Inequity Funding". The preamble and motion were: "The Board of Trustees of the Ottawa Hospital is aware of the major inequity in the Ministry of Health funding for the Hospital compared to all other teaching Hospitals in the Province of Ontario. This has resulted in an unsustainable and inequitable financial position for The Ottawa Hospital. Therefore....the Board of Trustees requests that the Minister of Health rectifies (sic) this substantial inequity in funding to The Ottawa Hospital immediately....." The concern about the deteriorating fiscal position of the hospital led to a letter in March, 2000 from the Board Chair to the Minister of Health and Long-Term Care. In the letter the board chair indicated that..."Most of us feel that we have reached the end of the line. To go further with our deficit without an explicit commitment from the Province to deal with an inequitable funding situation, would be fiscally irresponsible.[37]" The letter suggests that the hospital has "implemented major cost reductions." And goes on to suggest that " .....the problem is not one of operating efficiency or that the issue should be dealt with by major service cuts. The problem is one of inequitable funding by the Province."...."the Board of Trustees is aware of the major inequity in the Ministry of Health funding for the Ottawa Hospital compared to all teaching hospitals in the Province of Ontario. This has, in turn, resulted in the unsustainable and inequitable financial position for our Hospital....."

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[34] The Ottawa Hospital, 2000/01 Quarterly Report for the 2nd Quarter, November 1, 2000. It should be noted that hours actually exceeded budget by over 300,000 hours, but approximately 40,000 of these hours were attributable to the transfer of programs from the SA Grace Hospital.

[35] Finance Committee Minutes November 15, 1999.

[36] Board Meeting, 11/22/99, 7.2.1.

At its meeting on May 8, 2000, the Board approved an operating plan and budget for 2000/01 that would see operating revenues of $436,583,000 and operating and restructuring expenses of $478,938,000 resulting in a loss from operations and restructuring of $42,355,000. In considering this budget the board directed that the hospital should reduce its operating expenses from 1999/00 by only $5 million, a reduction of only slightly more than 1% of the hospital's total operating expenses. The board assumed that increased funding from the Ministry of Health would provide for the elimination of its budgeted operating deficit. The Board assumed that the hospital would receive additional operating funds as follows:

1. Reimbursement of 100% of the cost of restructuring and amalgamation in 2000/01 totaling $7 million.

2. An increase in base funding to fully recover the increased labour costs resulting from provincially negotiated labour settlements estimated to cost $20.2 million.

3. An increase in base funding to reflect equity for The Ottawa Hospital with the other teaching hospitals in Ontario, on a 'per weighted case basis' estimated minimally at $15 million.

In the discussion of the proposed operating budget, the Chair of the Finance Committee emphasized that the Board must meet its fiduciary responsibility. The Board included in its motion wherein it approved the operating plan for 2000/01 that, if by July 31, 2000 The Ottawa Hospital does not receive confirmation from the Ministry that the additional revenue will be forthcoming, Administration is directed to bring forward a plan to implement an appropriate reduction in services so as to balance the 2000/01 Operating Budget[38].

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[37] Letter from Nick Mulder, Chairman of the Board, The Ottawa Hospital, to the Honourable Elizabeth Witmer, Minister of Health and Long-Term Care, March 2, 2000.

The board was active in monitoring the operations and finances of the hospital. However, in spite of $11.5 million in additional funding from the Ministry of Health and Long-Term Care, the hospital's 2nd Quarter Submission to the Ministry in November 2000, forecasted a year-end loss from operations and restructuring of $72 million. This reflects an increase in costs of over $43 million over the original budget:

- $29.6 million from an under-budgeting of wage settlements from provincial bargaining and the unbudgeted cost of internal wage standardization resulting from the merger and
- $14 million increase in operating costs beyond the original budget[39].

In each of 1998/99, 1999/00 and 2000/01, the board has approved an operating and restructuring budget that would result in a significant deficit. But the approved budgets significantly underestimated the sizes of the deficits. In all three years the hospital's operational planning and budgeting process significantly underestimated the actual cost of operations and restructuring and in 1999/00 and 2000/01 it underestimated the resulting size of the losses from operations and restructuring.

The Board should take more responsibility for the financial health of the hospital by insisting that management aggressively pursue opportunities to minimize costs. Through improved clinical and operational efficiency and/or reduced content of care before considering reductions in the volume of services or seeking additional funding from the Ministry.

It is recommended that:

(4) The Board should take more responsibility for the financial health of the hospital by insisting that management aggressively pursue opportunities to

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[38] Although additional funding was neither provided nor confirmed, the hospital did not act to reduce services; it anticipated that the Operational Review would resolve its funding issues.

[39] It should be noted that approximately $1.4 million of this cost relates partially to the volume of intraocular lens implants and the cost of the lenses. The hospital, in consultation with the Ministry elected to defer any reduction in the volume of implants util after the completion of the operational review.

minimize hospital costs before seeking additional funding from the Ministry.

3.3.8.2 Monitoring Financial Health

Reporting to the Board of Trustees on the operations and financial performance of The Ottawa Hospital has improved over the past 3 years. The board now[40] receives a comprehensive report that presents:

1. A forecast of year-end results and a summary of changes in revenues and expenses that will lead to any changes in budgeted results. (We suggest that the year-end projection should be moved to be the first item in the package of information. The year-end projection helps to determine the need for and the urgency of corrective action to deal with variances from plans and budgets.)
2. Current hospital financial results compared to budget with an analysis of reasons for variances in:
   - Revenues
   - Expenses
     - Compensation
     - Medical/Surgical Supplies
     - Drugs
     - Supplies and Other Expenses
     - Restructuring

   (We suggest that the presentation be expanded and enhanced to provide a discussion of opportunities for corrective action to achieve the operating plan or budget targets and an explanation of actions undertaken to correct for negative variances. We further suggest that the Board should request management to propose and undertake mid-year corrective action to achieve budgeted levels of performance.)
3. The current reporting also presents an analysis of expenditure and earned hours variances by program and by major support and corporate service portfolio.

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[40] Based on Financial Report to Finance Committee for Seven Months Ending October 31, 2000 as appended to Finance Committee Minutes of 11/21/00.

4. The reports also present selected volume statistics for the hospital as a whole (separations, patient days, etc.) and selected operating units and services (OR Cases, Emergency Visits, MRI Exams, etc.).
5. And more recently, the reports have included a set of corporate financial indicators that presents trends in nursing and total paid hours per patient day; total paid hours per adult weighted case; adult and newborn average length of stay; occupancy rate; administrative expenses as a % of total operating expenses. We suggest that these would be more useful to the Board if the hospital's performance were compared to benchmark levels of performance of other Ontario teaching hospitals. Also, performance on these indicators should be contrasted with budgeted levels of performance. The reports should provide explanations of variance and planned corrective actions for these productivity measures as well as for financial measures.
6. The financial performance report also provides a Balance Sheet and a Statement of Cashflow.

We feel that financial and performance reporting to the board should help it to understand:

- the causes of variances from plan,
- the impact of the variances on the running rate of costs for the hospital and
- the potential impact on year-end results

and to identify variances that might be corrected through management initiatives. Thus variances from budgeted levels of expenditure should be identified and measured as variances that are caused by:

- Variances from planned volumes/workload
- Variances from planned unit costs (of labour or materials)
- Variances from planned levels of productivity

Making these analyses available to the board would allow board members to better exercise their responsibility for monitoring and maintaining the financial health of the hospital.

It is recommended that:

(5) The CFO should further expand and enhance financial and statistical reporting to the Board to include more comprehensive analyses of variances from plan that provide not only the cause of the variance but also potential corrective actions.

(6) The CFO should further expand and enhance statistical performance reporting to the board to provide comparisons with similar hospitals in Ontario.

3.3.8.3 Monitoring Effectiveness of Management

The board of a hospital bears overall responsibility for the effectiveness of the hospital in fulfilling its mission. It is, however, dependent on management to provide it with sufficient information to fulfill this responsibility. The board and management of The Ottawa Hospital have developed formal reporting structures and mechanisms to allow the Board to monitor the effectiveness of management.

The board as a whole receives a report every 4 months on the hospital's/management's success in achieving the corporate objectives for the year. These have been organized into objectives/tasks related to 10 domains of activity[41]:

1. Vision/Governance
2. Clinical Services Planning
3. Human Resources
4. Information Resources
5. Professional Services
6. Finance
7. Foundation
8. Quality
9. Communications
10. Research and Academics

As is discussed below, the framework for setting and monitoring corporate objectives has recently been further refined and improved.

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[41] 1999/2000 Corporate Objectives, 4 Month Progress Report, January 1st to April 30th, 2000. June 6,2000.

Additionally, as has been discussed:

- the finance committee of the board is actively engaged in monitoring the financial and operational management of the organization and the resulting operational and financial performance
- the quality committee of the board is actively engaged in monitoring the quality management of the organization and the resulting quality of care and services

The only significant suggestions that we might offer for improvement to these already robust processes are:

- The hospital should add benchmarking comparisons to the measurements of hospital performance
- The hospital should add measures of responsiveness to community needs for hospital care such as population utilization of hospital services by the communities served by the hospital and the market-share of these services provided by the hospital. Again, these measures should be compared to performance of other like communities in Ontario. This would help the board to monitor the effectiveness of management in organizing and delivering services in response to the needs of the population.

3.3.9 Ensuring & Monitoring Quality of Services

A fundamental responsibility of governance is ensuring and monitoring the quality of services and continuing improvement of quality in all aspects of hospital operations. The Ottawa Hospital has a well-developed process for the board to monitor the quality of hospital services:

- Receives and considers a monthly report on a defined set of quality indicators presented to the Committee by the hospital's Vice President, Medical Affairs;
- Receives a quarterly report on patient compliments and concerns
- Receives regular reports by Program VPs on quality issues related to their portfolios.
- Receives periodic reports on selected other indicators of quality of hospital services (e.g. HR Indicators Report, Waiting time for CT and MRI, etc)
- Receives periodic reports on Ottawa Hospital quality by external agencies such as OHA Report Card and Maclean's reports on health services.

The Quality Committee is also involved in considering quality implications of operational plans and budgets and advising the Board on the advisability of management's proposed initiatives.

The Quality Committee is not only receiving measurements of quality, but is also informed of investigations and corrective action by management to address issues of quality revealed through the existing measurement tools. The committee is also monitoring the success of management initiatives to improve quality.

The Board was also actively involved in the Canadian Council on Health Services Accreditation review of the hospital. It has reviewed the findings and is monitoring the corrective actions initiated by the hospital in response to the Accreditation Report.

As with all processes there are opportunities for the board to better understand the quality of care and services being provided by the hospital.

- The Committee itself has asked that the hospital's performance on quality indicators should not only be tracked over time, but also compared with the performance of comparable hospitals across Canada[42]. This will make the information provided to the Board much more useful in understanding the need for and/or opportunities to improve the quality of care and service being provide by the hospital.
- The hospital plans to develop a Risk Management Indicator Report when a corporate-wide Incident Reporting System is implemented[43]. A summary of this report should be provided regularly to the Quality Committee.
- There are plans to develop a package of indicators to monitor the quality of nursing care based on the Nursing Professional Practice Model developed for the hospital[44]. A summary of the findings from this measurement tool should be reported regularly to the Quality Committee.
- The hospital might also consider developing or obtaining quality measurement tools for other key areas of hospital performance such as dietary, housekeeping, imaging,

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[42] Quality Committee Minutes October 6, 2000, 7.0.

[43] Quality Committee Minutes October 8, 1999, 4.2.

[44] Quality Committee Minutes October 6, 2000, 3.0.

laboratories and providing summaries of these measurements to the Quality Committee.

Also, the Public Hospitals Act States that: "The medical advisory committee shall report in writing to the board at each regularly scheduled meeting of the board, respecting the practice of medicine in the hospital[45]" and ..."the head of each (medical) department may be made responsible by by-law of the hospital.....to advise the medical advisory committee with respect to the quality of medical diagnosis, care and treatment provided to the patients and out-patients of his department.[46]" Both to fulfill these obligations under the Act and to better understand the quality of care at the hospital, the MAC should more formally report to the Quality Committee on the quality of medical care at the hospital.

The hospital has a Quality Monitoring Task Force that is an element of the Clinical Quality and Resource Management Committee (CQRM). This Committee is monitoring indicators of the quality of medical/hospital care including ALOS, Mortality Rate, Complication Rate and Unplanned Re-admissions for each Division of each Medical Department of the Hospital. The CQRM Committee is reporting on these measures for each medical division to the MAC and to the Corporate Performance Committee.

- The MAC should provide a summary form of these reports for each medical department to the quality committee of the board.
- These measures are being measured and monitored monthly. As the hospital gains more history with these indicators measurement could be reduced to quarterly.
- Also, these quality measures would be more meaningful to the Board if they were contrasted with the performance of other like hospitals across Canada.

The MAC should also develop a protocol for reporting the findings of its Infection Monitoring Program to the Quality Committee of the Board.

The CQRM Committee and thus the Quality Monitoring Task Force are not subcommittees of the MAC[47]. The CQRM is an administrative committee of the hospital reporting to the Senior Management Committee/CEO through the Corporate Performance Committee[48]. The MAC does not appear to have established an independent mechanism for measuring and monitoring the quality of medical care. It is dependent on a committee of the management of the hospital for its formal tracking of the quality of care. As a result, it may have difficulty providing independent advice to the Board on the quality of care at the hospital. It may have difficulty independently advising the board on the actual impact of administrative actions on the quality of care at the hospital. The MAC should both be and appear to be providing independent advice to the board on the quality of medical care. The current structure provides an appearance of conflict. This should be corrected. The hospital should consider making the quality monitoring activities of the CQRM accountable to the Board of the hospital through the MAC rather than through the CEO.

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[45] Ontario Regulations 518/88 under the Public Hospitals Act, 6 (5).

[46] Public Hospitals Act, 31 (2).

[47] The Ottawa Hospital Medical, Dental & Midwifery By-Law, prepared by McCarthy Tetrault, June 1, 2000 suggest that the MAC "shall make

It is recommended that:

(7) The Chairman of the MAC should work with the President of the Hospital to establish a mechanism for measuring and monitoring the quality of medical care at the hospital that is accountable to the MAC and through the MAC to the Board of the hospital.

3.3.10 Annual Objectives and Performance Review of CEO

The board establishes annual objectives for the hospital. It monitors the hospital's performance against these objectives. The board receives comprehensive reports on progress toward achieving each objective every 4 months. The Board evaluates the CEO annually in relation to hospital's achievement of these objectives[49].

To be an effective component of the governance processes of the hospital it is important for the board to ensure that the

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recommendations to the Board concerning….establishment of committees of the Medical Staff, which shall report to the MAC……including ….: (vii) clinical resource management, (viii) quality monitoring…." . However, there do not appear to be committees of the medical staff addressing quality monitoring separate from the CQRM.

[48] The Ottawa Hospital Corporate Structure, Revised August 2000, Pages 33 and 52 and Terms of Reference for the Clinical Quality and Resource Management Committee, Undated.

[49] "The CEO goals will correspond to the goals established for the Hospital", minutes of the Executive Committee meeting , July 16, 1998.

annual objectives are, and are seen to be the board's objectives for the hospital.

The Corporate Objectives for 1998/99 were developed by the CEO, in consultation with Senior Management at its summer retreat in 1998 and with input from Board members[50]. These objectives were formally approved by the Board at its meeting on October 26, 1998[51]. The period covered by these objectives and starting point for their achievement was identified as September 1998.

The Corporate Objectives for 1999/00 appear to have been developed by the CEO in consultation with Senior Management and then presented by the CEO to the meeting of Board of Trustees on October 25, 1999[52]. Although reviewed by the board, there was nor formal adoption of these objectives by the Board of Trustees. And, again these were characterized as being for the period from September 1999 to August 2000.

The CEO presented management's proposed corporate objectives for 2000/01 to the meeting of the Board of Trustees on September 25, 2000. These were identified as the "Strategic Goals, Initiatives and Corporate Objectives, September 2000 to September 2001[53]." The objectives were modified from prior years to provide goals, strategic initiatives and objectives. They were presented as "…the attached 2000-2001 Strategic Goals, Initiatives & Corporate Objectives as prepared by the President & CEO and the Senior Management Team…[54]."

The expanded and improved framework for setting objectives presented in 2000 "aligns the annual corporate objectives with our (the hospital's) strategic goals and initiatives.[55]" This is a much-improved framework for articulating the objectives and related initiatives of the hospital. The only problem with the structure is in the semantics of the labels attached to the levels within the framework. The items labeled objectives would more correctly be identified as tasks designed to implement the strategic initiatives that will achieve the hospital's goals. We question the appropriateness of labeling them as objectives. The board wants the hospital to actually achieve the goals, not just execute the tasks. If the tasks are executed but the goals are not achieved then management has not achieved the board's objectives for the hospital.

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[50] CEOs Report to meeting of Board of Trustees, September 22, 1998.

[51] BD/26/10/98-14-125.

[52] CEO's Report to meeting of Board of Trustees, October 25, 1999.

[53] Attachment 7 to Agenda for Meeting of Board of Trustees Meeting on September 25, 2000.

[54] Attachment 7 to Agenda for Meeting of Board of Trustees Meeting on September 25, 2000.

[55] The Ottawa Hospital Corporate Objective Process, Attachment 7 to Agenda for Board of Trustees Meeting on September 25, 2000.

Also, perhaps a better process for considering corporate objectives would be to have the board focus on setting the goals and strategic initiatives and management focus on the defining the objectives or activities that will be used to implement the strategic initiatives and achieve the hospital's goals.

3.4 Management Structures & Processes

It is generally accepted in the hospital industry that management is[56] "responsible for the effective and efficient operation of the hospital in accordance with the direction set by the board". Management of a hospital is expected to fulfill its responsibility by:

- Providing leadership to the hospital community
- Developing and implementing strategies for achieving the hospital's objectives
- Creating organizational structures and processes
- Directing and overseeing the delivery of hospital services
- Improving efficiency of hospital services
- Improving effectiveness and quality of hospital services and care
- Recruiting and developing staff
- Reporting to Board on the effectiveness of the hospital

The organizational health and effectiveness of a hospital is dependent on the successful execution of these responsibilities. In this section we evaluate the management structures and processes of the Ottawa Hospital in relation to these expectations of the management of a hospital.

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[56] From "Into the 21st Century: Ontario's Public Hospitals, Report of the Steering Committee, Public Hospitals Act Review, Ontario Ministry of Health, Toronto, Ontario, February, 1992.

3.4.1 Senior Management Organization

Senior management at the Ottawa hospital is challenged by the need to operate hospital services on three sites while integrating programs and services across the sites. The hospital has chosen a matrix approach to the management of programs, sites and corporate services. This is a reasonable and potentially effective approach to addressing a significant management challenge. The decision to employ program management for major programs provides a vehicle to involve physicians in both the senior management forum as well as in the management of resource use in the hospital's programs. However, this approach to organizing the management of the hospital has created a very large senior management team. The senior management of the hospital currently includes:

- CEO
- 9 VPs (Growing to 11 with VP Alliances and VP Rehabilitation Services)
- Medical Directors
- 1 Chief of Staff

Despite the size of the Senior Management Team, agendas for senior management meetings are reasonable, discussions are focused and all report that their opinions are heard and respected. Although, members of senior management report that it is clear when a decision has been made, there is seldom voting. And although the CEO takes advice from the Senior Management, it is clear that the final decision-making authority rests with the CEO.

Although some have suggested that the senior management team is too large, we feel that there is little opportunity to reduce its size. The only opportunities to reduce the size of the management team might be to:

- integrate direction of the Corporate Services functions (Finance, HR, Communications) into a single position. (However, each of these functions will still require senior leadership and thus there will still be a leader in HR and Communications. There would be no reduction in the overall staff complement or cost of management)
- integrate the functions of the VP Academic and Research[57] and the VP Medical Affairs[58] into a single position.

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[57] The Ottawa Hospital Corporate Structure, August 2000.

- explore the appropriateness of the Chief of Staff sitting on Senior Management when s/he is Chair of the MAC (does participation in senior management put him/her in conflict with the role of advising the board or the implications of management decisions for the quality medical care) and,
- the necessity of the Chief of Staff sitting on Senior Management when there is a VP Medicine and Program Medical Directors on the Senior Management Team. (Is the Chief of Staff participation redundant?)

However, implementation any changes in the structure of senior management should await consolidation of merger.

3.4.2 Strategic Planning

As has been discussed planning is a critical component of hospital governance and management. In keeping with the need to distinguish between governance and management, organizational objectives and long-range goals for programs and services should be considered primarily a responsibility of governance; strategies and operational plans for achieving these objectives and goals should be considered primarily a responsibility of management.

Management will participate in and provide support for the Board's initiatives to:

- Establish the objectives for the hospital (Vision, Mission and Core Values)
- Select the health needs of the composite community that might be appropriately served by the hospital (Role Statement)
- Determine the programs and services to be offered by the hospital in response to the health needs of the population and in order to achieve the hospital's objectives. (Long-Range Plan)

However, management is responsible for developing a strategic plan that identifies the initiatives that will be employed to implement the enhancements, expansion and/or rationalization of programs and services suggested by the long-range plan thereby achieving the Vision and fulfilling the Mission of the hospital. It is also responsible for translating the objectives, plans and strategies into an operational plan

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[58] Ibid.

that will specify the activities to be initiated in the each fiscal year.

As has been discussed, the hospital's planning focus has been, necessarily, on the creation of The Ottawa Hospital through the merger of predecessor organizations and the integration of programs and services from other Ottawa hospitals. Thus, management's strategic initiatives and plans have also focused on the merger. Management has developed a strategy, strategic goals and a set of strategic initiatives. It has also aligned the annual corporate goals to its strategic goals and initiative. These are contained in a document prepared by management entitled "Fulfilling the Vision"[59]. These begin to broaden the focus of activity beyond the initial and necessary focus on making the merger work. The document articulates the following strategy for the hospital:

"In order to fulfill our vision, mission and core values, The Ottawa Hospital Senior Management Team has identified the following as its strategic direction:

- "To achieve benchmark performance in quality care, accessibility and cost, while assuring a balance among these components.
- To provide leadership in patient care, research and education"

3.4.3 Operational Planning & Budgeting

Operational planning and budgeting are the annual management processes through which a hospital implements its long-range plans and fulfills its mission. Typically these processes will include setting:

- Annual objectives for the organization
- Plans for the development, enhancement, maintenance, contraction or elimination of programs and/or services
- Performance expectations related to the volume, productivity, cost and quality of services provided by each program and by each therapeutic, diagnostic, support and administrative service department.
- Targeted expenditure levels for each element of the program

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[59] Draft 4, Revised August 4, 2000.

- Estimates of revenues

A hospital needs the operating plan and related budget to describe and quantify its annual objectives and its planned program, service and fiscal initiatives. The plan and budget should be reviewed and approved by the board, and thus is one of the most effective vehicles for ensuring accountability of hospital management and staff to the board, and to the hospital corporation and the communities served by the hospital.

By the time of the planning and budgeting cycle for 2000/01 The Ottawa Hospital had developed a budgeting process that substantially meets these criteria for effective planning and budgeting[60].

The process and content of operational planning and budgeting for hospitals in Ontario has been codified through regulations articulated by the Ministry of Health. The Ottawa Hospital follows the regulated processes and has developed an operating plan and budget for each of 1999/00 and 2000/01[61].

The only significant failings of the processes used by the hospital for operational planning and budgeting relate to:

- Annual objectives
- The statistics used as performance targets.
- The communication and review processes for the final performance targets and budgets

Annual objectives should start the annual operational planning and budgeting process and should provide the framework for setting planning parameters and performance targets. The objectives should relate to the same period as the operational plan and budget. The Ottawa Hospital does set annual objectives for the organization. The processes used to develop these objectives and their content have improved each year. For maximum effect, the objectives, the operating plan, the budget and the evaluation of the CEO should relate to the same period of time and should be based on the same sets of targets and performance measures. The annual objectives of the Ottawa Hospital have been for the period from September to September whereas the operating plan and budget are for the period from April to March[62]. And the CEO is evaluated on his performance over the period from April to March. The hospital would benefit if the time frames for these three processes were brought into alignment.

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[60] The Ottawa Hospital Operating Plan Process Document, Phase One, Fiscal Year 2000-2001.

[61] A budget for the hospital for 1998/99 was prepared by the Steering Committee that established the hospital. It did not prepare an operating plan document.

It is recommended that:

(8) The Chair of the Board should modify the process for setting annual objectives for the hospital so that the time period for these objectives is in alignment with the time period of the operating plan, budget and CEO performance appraisal.

We feel that an effective operational planning and budgeting process should be based on:

- Estimates of patient volume
- Targets for Clinical Efficiency
- % Ambulatory
- ALOS
- Targets for Content of Care
- Departmental Workload per Separation/Ambulatory Procedure
- Targets for Operating Efficiency
- Departmental Productivity
- Unit Cost Estimates for Labour
- Targets for Material and Supplies Productivity

The Ottawa Hospital has a reasonably effective process that can serve to achieve the planning and budget parameters defined by the Board. However, it is a supply-based approach that is somewhat detached from patient volume or departmental productivity targets. Except for an indication that departmental budget targets "will be set based on 1998/99 activity levels.[63]", the documentation of the budget process for departments suggests that it is independent of patient volumes, workload and productivity[64]. According to the Operating Plan

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[62] Attachment 7 to Agenda for Meeting of Board of Trustees Meeting on September 25, 2000.

[63] Senior Management Committee Minutes, November 17, 1999.

[64] Senior Management at its retreat of November 24, 1999 did consider selected hospital wide measures of patient days and nursing paid hours per patient day

Process Document[65] prepared by the Division of Budgets and Reporting the budgeting focus is on accommodating staff hours to the funds available[66]:

- "Senior Management has set target for "hours" for the fiscal year 2000-2001." The target for hours was based on the $ available for compensation after considering "expected revenues and other categories of expenses, a total dollar figure was calculated for the compensation costs that the Ottawa Hospital could afford in order to meet the balanced budget mandate. Using an average hourly rate for the hospital a total number of hours were targeted. Targets were then broken down by program and were approved at that level only. Once the staffing patterns are returned and summarized, Senior Management will review the implications of the hours set forward by the programs. Once the submitted hours are approved, targets will be set for the non-compensation expenses, and then the second section of the operating plan process will begin…"

The operating plan process used by the hospital does not formally include consideration of anticipated volume or productivity targets in determining required or budgeted hours for the hospital as a whole, for the hospitals programs or its patient care, therapeutic, diagnostic or support service departments. Nor does the operating plan process used by the hospital formally consider the productivity that will result from the hours that are being budgeted.

The process starts with supply targets for staff hours rather than with estimates of patient volume and expectations for content of care and productivity. Our experience suggests that this will lead departments to focus on what they will be able to do with the available hours rather than how they can become more productive and provide service to the same volume of patients with fewer hours. Departments tend to assume that they will be expected to provide the prior years content of care and that they will be allowed to operate at the prior year's

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and total paid hours per patient day. There is no indication that similar were determined for individual nursing units or departments.

[65] The Ottawa Hospital Operating Plan Process Document, Phase One, Fiscal Year 2000-2001.

[66] This document is the only budgeting process referred to in the minutes of Senior Management: "…..This document which highlights last week's Senior Management Team discussions, will be reviewed this afternoon with all directors." Minutes of Senior Management Committee meeting December 1, 1999.

productivity levels. They will then apply these content and productivity parameters to the targeted staff hours and report how much workload that they can accommodate and how much less patient volume can be processed. It will not focus their efforts on continually improving their approach to service delivery to improve productivity and/or quality. In the hospital's budget documents direct managers are asked to "....provide a brief narrative explaining the measures taken to arrive at the submitted staffing pattern" and the first item listed is "cuts in service" and there is no suggestion that departments consider redesigning production or care delivery processes. We feel that the hospital's budgeting process is not the best approach to be used in an environment that requires reduced costs while maintaining existing patient volume. To achieve cost reductions, budgeting processes must focus on content of care and the efficiency of departmental processes, not on reducing patient volume.

Programs and departments and department managers initiate the development of their operating plans and budgets. However, there are inconsistent approaches to involving front line managers in the review and approval process. In some instances, the realignment of departmental budgets to bottom line budget targets seems to be executed at a level above departmental management. In these instances there is limited ownership of the final budgets by department managers who need to provide the targeted results. Front line managers need to be consulted about and informed of the final budgets for their areas. Budgets will not be achieved unless front line managers commit to the targets.

It is recommended that:

(9) The CFO should modify the operational planning and budgeting process to more formally and explicitly include consideration of patient volume, content of care, departmental workload and productivity.

(10) The CFO should introduce 'continuous improvement concepts into the hospital's operational planning and budgeting process.

(11) The Hospital Vice Presidents should ensure that managers are consulted in the reformulation of budgets to achieve overall targets and that the rationale for final budgets for their areas is communicated and explained.

Hospital planning and budgeting over the past 3 years has proposed only very modest reductions, if any, in spending from prior years. In 1999/00 the hospital budget provided for only a 1.3% reduction in spending before adding the increased unit costs of labour. In 2000/01, the hospital budget provided for only slightly more than a 1% reduction in spending before adding the increased unit cost of labour.

The hospital did not contain spending to its budgeted levels. Labour hours have exceeded budgeted levels and increased over prior years even though inpatient volumes have remained relatively constant. To compound the problem the unit cost of labour has exceeded the budgeted levels:

- The hospital did not include an estimate of the impact of provincial wage settlements in its budget for 1999/00[67];
- The hospital underestimated the impact of provincial wage settlements in 2000/01[68] and
- The hospital did not provide for the impact of wage standardization on its operating costs in its budgeting for either 1999/00 or 2000/01.

The increases in hours and wage rates have driven hospital costs dramatically beyond budgeted levels of expenditures[69].

This would have been a problem had the budgets provided for a break-even or better position. In every year of The Ottawa Hospital, it has planned and budgeted for expenses that would exceed its revenue forecasts. In 1998/99 the hospital budgeted for a loss from operations of $31 million. In 1999 the hospital budgeted for a loss from operations of $12 million (before any provision for wage settlements that ultimately added $20 million to the budgeted operating losses). In 2000/01 the hospital budgeted for a loss from operations of $36 million (before any provision for wage harmonization among sites that ultimately added $24 million to the budgeted operating losses)

As a result of underestimating its operating costs:

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[67] The Ottawa Hospital 1999/00 Operating Plan. June 21, 1999. Page 41: "…..the 1999/2000 Financial Statements do not include an allowance for the impact of any potential collective agreements….."

[68] Cover letter to Second Quarter Report Submission from Richard Wilson to Peter Finkle. Dated November 1, 2000.

[69] Cover letter to Second Quarter Report Submission from Richard Wilson to Peter Finkle. Dated November 1, 2000.

- the hospital has begun its first three fiscal years without a clear articulation of the full magnitude of its operating problem.
- the hospital has been unable to communicate clearly or credibly to the Ministry the magnitude of its impending problem at the beginning of the fiscal year[70].

The hospital's needs to improve the accuracy of the:

- Forecasts and plans for patient volume
- Plans for departmental workload
- Plans for departmental productivity
- Forecasts of the unit costs of labour and materials

included in its annual operating plans and budgets in order to provide the board and the Ministry with more accurate forecasts of hospital operating costs and results.

It should be noted that The Ottawa Hospital, like others, received formal direction from the Ministry that it:

- could not reduce its spending on laboratory services in advance of lab restructuring
- could not reduce its spending on mental health services
- should maintain nurse staffing levels from 1998/99 and the Ministry funded an increase in nursing hours beyond 1998/99 levels (The Ottawa Hospital received $7.3 million to provide for 125 additional nursing FTEs).

These directives from the Ministry limited the hospital's options for reducing its costs. Also, as The Ottawa Hospital contemplated reductions in capacity to reduce service volume and costs, the hospital received both formal and informal direction from the Ministry to maintain or restore capacity and/or service volumes.

Announcements of hospital funding levels have been delayed well into the fiscal year. Although, increments in base funding are reasonably predictable, the Ministry has been making ad-hoc announcements of one-time and special funding for hospitals. This has made it quite difficult for hospitals to accurately forecast their revenues and thus understand the flexibility they might have with respect to service volumes and content that would still provide for operating surpluses.

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[70] As the magnitude of its operating cost and capital spending problems became more evident during the course of each year, the hospital did communicate the growing size of its fiscal problem to the Ministry with requests for assistance.

It is recommended that:

(12) **The Ministry of Health should provide a clear, comprehensive and timely indication of the funds for continued hospital operations in advance of each fiscal year.**

(13) **The CEO and CFO of the Ottawa hospital should take measures to improve the accuracy of the hospital's operational planning and budgeting processes.**

The principal focus of the hospital's fiscal planning and management has been to look for external solutions to its fiscal problem through increases in Ministry funding. There has been only minimal attention to seeking opportunities to change care processes and/or improve efficiency to mitigate the impact of increasing costs of labour and supplies to allow the hospital to maintain patient volume while containing or reducing operating costs.

The hospital's fiscal focus has been on increasing its funding from the Ministry of Health. Its strategy seems to have been to spend its way to an increase in its base budget funding from the Ministry. At the first formal meeting of the new hospital's management team, this strategy was clearly articulated. Senior management talked about using budget to "send a message to MOH"….."similar hospitals are faced with the same problems across the province. The intention is to send a concerted message to the MOH[71]." The rationale for this focus has been that the hospital feels that its funding is inequitably less than that of its peer teaching hospitals in the province.

- "Finance still remains the most significant issue for The Ottawa Hospital…. The Finance Committee having studied this situation in detail has concluded that the under-funding arguments brought forward by The Ottawa Hospital are justified and merit correction by the Government.[72]"
- "The Hospital has clearly demonstrated that it is under-funded in relation to other teaching hospitals in Ontario

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[71] Management Committee minutes 4/3/98.

[72] CEOs Report for 1999-2000, August, 2000.

and that it is essential that the funding provided by the Ministry to The Ottawa Hospital be adjusted accordingly.[73]"

- "The Operating Plan for 2000/01 will result in a deficit of $39.9 million before building depreciation. The largest components of this deficit are the impact of labour settlements, restructuring costs not reimbursed fully by the Ministry of Health and Long-Term Care, and the inequitable funding variance compared to our peers. We anticipate additional funding from the Ministry to bring us to a balanced position.[74]"
- "Our theme continues to be that we are grossly under-funded compared to our peers and the year after year deficits that result are not acceptable…..We continue to squeeze out every possible dollar during this chaotic restructuring period but it is a very difficult sell to our patients, staff, physicians and Board Members when they are all aware of the historical funding inequities that exist.[75]"
- "You may feel that a recovery plan that includes a $28 million deficit and projected negative working funds of $92 million is in fact a non-recovery plan, but we are convinced that our recovery lies in the hands of the Ministry of Health and increases in one-time and on-going funding.[76]"
- "It is imperative that the Ministry of Health and Long-Term Care provides adequate financial assistance to allow The Ottawa Hospital to meet its patient demands and successfully merge the Hospital services in our Region.[77]"

As can be seen he fiscal focus of the hospital has been on attempting to increase its Ministry revenues. The hospital has assumed that its perceived entitlement to increased operating funding would be recognized fully and rectified by Ministry of Health and Long-term Care. The hospital:

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[73] CEOs Report for 1999-2000, August, 2000.

[74] The Ottawa Hospital, 2000/2001 Operating Plan. June, 2000. Executive Summary.

[75] Covering letter for Recovery Plan for 2000/01 from David Levine to Peter Finkle. February 7, 2000.

[76] Covering letter for Recovery Plan for 2000/01 from David Levine to Peter Finkle. February 7, 2000.

[77] The Ottawa Hospital, 2000/2001 Operating Plan. June, 2000. Executive Summary.

- Has assumed that the Ministry would increase funding to fully compensate for all wage settlements
- Has assumed that the Ministry would increase funding to compensate for merger related wage standardization, and
- Has assumed that funding of Ottawa Hospital is inequitable in relation to peers and that the Ministry would rectify the inequity.

But, the hospital has not received any confirmation from the Ministry that it agreed with these positions or that it intended to increase funding to the hospital's level of spending. To be fair, the ministry also has not clearly told the hospital that it wouldn't adjust Ministry funding of the hospital to recognize the hospital's spending.

As is apparent from both its statements and behaviours, the hospital has not accepted that the funding actually being provided by the Ministry of Health should provide the fiscal framework for its operations and operating costs. And the hospital is adamant that its decisions should be confirmed by the Ministry and that funds should be provided to cover current operations and past deficits.

Assuming that the Ministry would eventually confirm its assumptions and decisions, the hospital has proceeded to spend on hospital operations (and capital projects) far in excess of the funding provided or committed by the Ministry of Health. While waiting for the Ministry to solve its problems, the hospital has allowed its fiscal position to dramatically deteriorate. It is now forecasting a working funds deficit of $147.2 million by the end of fiscal year 2000/01. This will be the largest fiscal problem ever faced by an Ontario hospital.

It is recommended that:

(14) The Ministry of Health should clearly indicate the total funding that will be provided to the Ottawa Hospital for continuing operations and restructuring.

(15) The Ottawa Hospital should develop and implement plans to provide hospital services to its catchment population within the revenues committed to it from the Ministry of Health and available to it from other sources.

3.4.4 Controlling Expenditures

The primary focus of management of a hospital is providing for and ensuring the effective and efficient provision of patient care. Controlling expenditures suggests that management needs to set in place processes for managing hospital efficiency. These processes should include:

- Cost Management-Controlling the cost of each unit of labour and material used by each department of the hospital in providing its services or producing its products.
- Productivity Management-Measuring, monitoring and controlling the number of units of labour and materials employed in producing departmental services
- Utilization Management-Measuring, monitoring and controlling the resources used in each episode of patient care (including length of stay in hospital)
- Utilization Management-Ensuring the appropriateness of each episode of patient care
- Production Management-Measuring, monitoring and controlling the number of episodes of patient care.

Management of a hospital uses these processes to manage the overall content and cost of hospital operations. To be effective in the execution of its responsibilities, management needs to be able to influence and ultimately manage all aspects of the clinical and non-clinical activities of a hospital.

Through its program management structure and management processes, the management of The Ottawa Hospital has and is establishing structures and processes that will allow it to effectively and aggressively manage hospital costs. However, as has been discussed previously, aggressively managing and reducing costs has not been a focus of the governors or the managers of the hospital.

It is recommended that:

(16) The CEO and Senior Management should make cost management and productivity improvement a priority of management and staff throughout the organization.

3.4.5 Management Reporting

There must be a balance in management reporting. Too little information and too much information should both be avoided.

Management information should focus on the "critical success factors" of an organization. For any organization, the critical success factors are the limited number of areas in which satisfactory results must be achieved in order to ensure the successful performance of the organization. These are the few key areas where "things must go right" for the organization to flourish. If results in these few significant areas are good, the organization will be successful. If results in these few areas are not adequate, the organization's overall performance for this period will be less than desired. The critical factors are areas of activity that should receive constant, careful attention from management. The current status of performance in each area should be continuously measured and made available to the appropriate managers.

The critical volume, productivity, cost, revenue and overall performance targets specified in an operational plan/budget should provide the foundation for effective management reporting. Management reports should provide managers with an indication of departmental performance in relation to operating targets and budgets for:

1. Utilization (e.g. Laboratory Tests per Separation)
2. Volume (Laboratory Tests)
3. Workload (Laboratory Workload Units)
4. Productivity (workload units per variable worked hour – per UPP worked hour)
5. Variable/UPP worked hours
6. Overhead worked hours (Management and Operational Support hours)
7. Benefit hours
8. Total paid hours
9. Total Labour Costs
10. Total Supplies Costs
11. Total Operating Costs
12. Revenues
13. Quality of service

Then, throughout the year, an effective management reporting system will concentrate on:

- Comparing actual results to targets

- Providing this information in a timely and accurate manner to support operating decisions.

So that managers are able to understand and explain significant variances and develop plans for corrective actions to achieve the budgeted levels of performance. (Alternatively, if the causes of variance are outside the control of the hospital, consideration might be given to formally changing the performance targets.).

Reporting for Departmental Managers

Monthly reports for Department Directors and Managers at The Ottawa Hospital provide year-to-date and current month detailed data on:

- revenues
- expenditures for labour
- expenditures for services
- expenditures for supplies
- worked, benefits & purchased labour hours
- workload and activity

And managers receive these monthly reports in a very timely fashion. Reports for November 2000 were printed for distribution on December 14, 2000; within 2 weeks of month-end.

Department managers receive reports titled:

- Detailed Management Report (which summarizes the transactions for the month into detailed categories of revenue, labour expenses, supply and service expenses, MOS earned hours, UPP earned hours, workload and activity)
- General Ledger Detailed Report (General Ledger transactions)
- Oracle Purchasing Accrual Detail (Supply transactions for month)
- 12 Month Usage Report (Usage and charges for individual supply items by month for the current year)
- Position Management System, Position Listing (Listing of approved positions and names of incumbents for each position)

- Employee Summary Listing (Employee status report of seniority, sick leave, vacation , etc.)
- Employee Labour Distribution Report (Pay Period report of breakdown of paid hours for pay period and year to date into categories of worked and benefit hours)

The level of detail provided by these reports is most useful in documenting individual expenditure items within categories of spending. This level of detail will help to understand and explain the expenditure items that may have led to variances from targets. But they are difficult to use in identifying these variances. The reports do not provide an easily usable summary information on variances from critical operating targets. They do not identify the critical variances requiring investigation and corrective action. As a result, reporting to front-line managers is not as effective as it might be in supporting the management of departmental activity or controlling costs.

The hospital should provide each department with higher level summaries of departmental performance in relation to the critical operating and budget targets listed above. These can then be the basis for more effective variance analysis within the hospital.

It should be noted that managers at the Ottawa General site receive reports from the TSI system that provide this type of information. By analyzing the contribution to any variance from budget of variances from targets related to:

- Labour efficiency
- Labour price
- Supplies
- Fixed Costs of labour, equipment, facilities

A manager can quickly identify where to focus efforts in explaining a variance from budget and developing corrective actions. It would be very useful if these reports could be provided for managers at the other sites and be extended to provide reports for program as well as functional centre managers.

It is recommended that:

(17) The CFO should extend the type of variance reporting available at the General site to managers at the other two sites.

Variance Analysis

The hospital has developed an extensive process for analyzing variances and documenting explanations and potential corrective action.

There are different processes for variance analysis employed at the General site (which focuses on budgeted and actual earned hours) and the Civic site (which focuses on compensation expense, supply expense, total costs and total earned hours and, where appropriate, revenues and net expenses). Each departmental manager is expected to:

- consider their monthly departmental management report (DMR),
- explain variances from plan and budget, and
- suggest potential corrective actions.

These analyses are collated and organized into a Monthly Program Variance Analysis Report by the Program Support Analyst. This report shows the year-to-date budgeted, actual and variance in total expenses and the year-to-date actual hours and presents both a rationale for the variance and a 'recovery strategy'. The report provides space for a year-end projection; but it is not used. This information is presented for each functional centre on each site, summarized by service type and summarized for the program as a whole. There is also a monthly Year-to-Date Summary Status Report prepared for each program that presents the programs variances in total expenses, net expenses, revenues, MOS compensation, UPP compensation, Supplies and other expenses.

The Finance Department is working with Program Support Analysts to refine and improve variance analysis and reporting.

There are several opportunities to improve the hospital's approach to analyzing variances from plans and budgets:

- The department managers' reports focus on the current month variances whereas the collated and summary reports focus on year-to-date (YTD) variances. It is hard to reconcile the two. We would suggest that neither is necessarily correct. The real issue is the potential impact on ongoing performance (the 'running rate') and year-end results. If the current month variance is the beginning of a negative trend then it should be identified early and addressed before it has a negative impact on year-end (and future years') results. If the year-to-date performance is an erosion of performance than it should be addressed so that performance can be restored to targeted levels. The focus needs to be on determining whether performance can be restored to targeted levels. This will require reporting and analysis of both current month and year-to-date performance.

- The hospital's summary reports need to focus on materiality. These reports are being prepared for the hospital's Vice Presidents. The Vice Presidents need to be able to focus their efforts where there will be the largest impact. It might be useful if the summary reports provided a sorting of functional centre results from largest to smallest variances from plans and budgets. The Vice President could then work with Departmental Managers with larger variances to determine whether the current and/or year-to-date variances will impact on the year-end result and determine whether there is a feasible corrective action.
- Also, the summary status report should identify any common themes across the departments that might suggest a problem that pervades the program area and that might require corporate rather than sectoral initiatives to resolve.

However the hospital has established a strong structural foundation to support variance analysis. It has embedded variance analysis into its management processes. It now needs to take advantage of its successes to better control costs in relation to plans.

In refining its approach to variance analysis, it will be important for the hospital to remember that the most important aspect of variance analysis is not the determination of the cause of the variance, but rather the determination whether it is a controllable variance. If the variance is controllable then corrective action should be initiated; if it is an uncontrollable variance, then rebudgeting should be considered to reflect the uncontrollable/unplanned event. Corrective actions should be taken in response to significant departmental variances. When these actions will impact on departments outside the program portfolio, the proposed plan of action should be reviewed with the Senior Management Team prior to implementation. Corrective actions with significant implications for the hospital and/or rebudgeting with significant implications for year-end results should be reviewed with the Finance Committee of the Board.

It is recommended that:

(18) The CFO should expand reporting and variance analysis at all levels of the organization to focus on both current period and year-to-date measurement and analysis.

(19) The CFO should ensure that all analysis of variance includes consideration of the implications of the variance for year-end departmental, program and hospital results.

3.5 Medical Staff Involvement in Management

The Senior Management Team includes Program Medical Directors, the Chief of Staff, the Vice President Medicine and the Vice President Research. The use of a Program Management structure has the potential to better involve medical staff in the management of hospital operations and management decisions regarding the use of hospital resources.

The physicians that are participating in hospital management are very positive about their ability to contribute and influence decision-making and the direction of the hospital. However, some physicians who are not involved in management feel that they are not being heard; and a smaller number feel that they are not receiving enough information about hospital affairs and decisions affecting medical practice at the hospital. This is despite regular program of communication by the CEO including letters to hospital staff and meetings with medical staff.

In our investigation it has been reported that many in the medical staff of the hospital feel that the Medical Staff Association has not been a strong advocate for physicians. There is a feeling that the interests of the medical staff are not being heard at the board of trustees.

The hospital does not have a Joint Conference Committee. A Joint Conference Committee is typically composed of officers of the Medical Staff Association and the Management Committee of the Board of Trustees. It is often expanded to include the full board, the members of the MAC and senior management. Meetings of Joint Conference Committees are usually held once or twice per year. Meetings of the committee provide a forum where medical staff leadership can articulate the issues and concerns of the medical staff regarding the governance and management of the hospital directly to members of the board. The meetings also provide an opportunity for board members to articulate the issues and concerns that they may have regarding the participation of physicians in the management, operations and clinical processes of the hospital. It provides an opportunity for hospital leadership to exchange and discuss ideas, opinions and feelings. Less formally, it provides an opportunity for medical staff leadership and board members to get to know each other and can be an effective communications tool.

During the merger process, it might be useful to have this vehicle for members of the medical staff to talk directly to board members about their issues and concerns regarding the merger process and the impact of governance and management decisions on the practice of medicine at the hospital. Medical staff will then know that their issues and concerns have been presented and heard by the board. It will also allow board members the opportunity to discuss their objectives and long range plans for the hospital.

Additionally, although not yet an issue, the hospital should be aware of and consider a potential issue related to the role of the MAC under Program Management. In many hospitals, program management activities and responsibilities overlap with the responsibilities, activities and interests of the medical departments and the MAC. The hospital should ensure that roles and responsibilities are clearly defined, before conflicts arise. The hospital should also consider the potential conflict of interest for the Chief of Staff/Chair of MAC if s/he also serves on the senior management team of the hospital that is accountable to the CEO. The question that needs to be addressed is the appropriate relationship of the Chief of Staff to the Board, to the medical staff and to the management of the hospital.

It is recommended that:

(20) The Board Chair should establish a Joint Conference Committee to improve communication between the board and the medical staff of the hospital.

3.6 Management Compensation

Senior management compensation is not excessive when compared to compensation of managers at other Ontario hospitals

We compared TOH Executive compensation with similar positions in both teaching and large community hospitals for whom data are available (4 teaching; 11 community). We compared the total cash income at both the average and the 75th percentile (25% pay more, 75% pay less). We compared

5 executive positions that are reasonably similar across the organizations surveyed. Based on these comparisons we find that:

- Ottawa executives paid less than average of similar jobs in teaching hospitals
- With exception of CEO, The Ottawa Hospital executives paid considerably below the 75th percentile of the combined group of teaching & community hospitals

From this comparison, one can conclude that compensation of senior management at The Ottawa Hospital is not excessive.

4.0 Programs and Clinical Review

The primary data source for the review of clinical programs is the patient separation data reported to the Canadian Institute for Health Information by the Ottawa Hospital and its predecessor organizations. For purposes of analysis of hospital activity trends pre-dating the establishment of the Ottawa Hospital (TOH), all data reported by the Riverside Hospital, the Ottawa Civic Hospital, and the Ottawa General Hospital, have been included. Activity of the Salvation Army Grace Hospital (i.e. ophthalmologic surgery) is not included in TOH volumes prior to the transfer of the activity to the TOH, except where explicitly noted.

4.1 Hospital Programs

4.1.1 Program Inventory

The following table shows the distribution of Ottawa Hospital inpatient and ambulatory procedure (SDS) activity by Ministry of Health and Long-Term Care Program Cluster Category (PCC) in 1999/2000. Activity of the Heart Institute is included in the Ottawa Hospital data (Heart Institute patient records were combined with Ottawa Hospital records for CIHI reporting purposes in 1999/2000). This is why the Cardio/ Thoracic Program Cluster Category is shown as the largest PCC at the Ottawa Hospital, accounting for 14% of total weighted cases.

Cases are assigned to Program Cluster Category based on CMGs. The Trauma PCC is based on a set of CMGs (defined by the MOHLTC), and does not use the same trauma case definitions as used in the Ontario Trauma Registry.

During fiscal year 1999/2000 there were major changes in program activity due to the closure of the Riverside Hospital and Salvation Army Grace inpatient beds and the transfer of the Riverside Hospital activity and most of the Salvation Army Grace activity to the two Ottawa Hospital inpatient sites.

Exhibit 4.1

Distribution of Ottawa Hospital 1999/2000 Inpatient and Ambulatory Procedure Activity by Ministry of Health and Long-Term Care Program Category Cluster

MOH PCC	IP Cases	IP Days	ALC Days	Qual. SDS Cases	Total OCW	% of TOH OCW	% ALC	% SDS
Cardio/ Thoracic	3,893	36,443	531	171	13,115	14%	1%	4%
General Surgery	4,301	44,278	2,871	5,345	11,649	12%	6%	55%
Obstetrics	9,298	28,018	9	1,585	7,174	8%	0%	15%
Orthopaedics	3,070	22,536	1,581	3,221	6,419	7%	7%	51%
Oncology	2,410	29,106	1,601	1,417	5,940	6%	6%	37%
Trauma	2,285	28,882	4,794	498	5,642	6%	17%	18%
Cardiology	3,839	23,851	1,062	20	5,163	6%	4%	1%
Neonatology	7,815	28,521	117		4,610	5%	0%	0%
Pulmonary	1,959	18,999	3,642	461	3,867	4%	19%	19%
Urology	1,999	10,328	507	4,631	3,328	4%	5%	70%
Gynaecology	1,918	6,676	2	5,405	3,123	3%	0%	74%
Gastro/Hepatobiliary	2,494	13,274	293	7,051	3,034	3%	2%	74%
Psychiatry	1,715	30,921	3,840	12	3,026	3%	12%	1%
General Medicine	1,772	14,146	1,620	1,007	2,880	3%	11%	36%
Neurology	1,496	18,315	5,074	36	2,801	3%	28%	2%
Ophthalmology	693	1,100	19	7,550	2,655	3%	2%	92%
Vascular Surgery	775	10,033	512	158	2,508	3%	5%	17%
Neurosurgery	660	7,340	501	694	1,970	2%	7%	51%
Otolaryngology	889	2,832	-	1,543	1,199	1%	0%	63%
Endocrinology	590	4,616	508	798	928	1%	11%	57%
Nephrology	438	3,784	564	296	837	1%	15%	40%
Rehabilitation	140	3,607	516		530	1%	14%	0%
Plastic Surgery	103	2,097	233	68	477	1%	11%	40%
Haematology	383	1,879	37	262	446	0%	2%	41%
Rheumatology	119	1,384	151	12	204	0%	11%	9%
Dental/Oral Surgery	15	42	-	509	146	0%	0%	97%
Dermatology	63	712	153	42	98	0%	21%	40%
Not Gen. Hosp.	256	298	-	264	85	0%	0%	51%
Ungroupable	7	143	-	5	3	0%	0%	42%
Grand Total	55,395	394,161	30,738	43,061	93,858	100%	8%	44%

The results in the table above are sorted by total Ontario Case Weight volume (for both inpatient and qualifying SDS cases combined). The Ontario Case Weights serve as a surrogate measure of the relative allocation of hospital resources. The first six of the program clusters (Cardio-Thoracic, General Surgery, Obstetrics, Orthopaedics, Oncology, and Trauma) consume 53% of TOH inpatient and ambulatory procedure resources. Collectively, the surgical programs used 55% of TOH inpatient and ambulatory procedure resources in 1999/2000.

Exhibit 4.2
Distribution of Ottawa Hospital 1999/2000 Inpatient and Ambulatory Procedure Activity by Program

Program	IP Cases	IP Days	ALC Days	Qual. SDS Cases	Total OCW	% of TOH OCW	% ALC	% SDS
Surgery	20,744	172,131	11,265	29,772	52,028	55%	7%	59%
Medicine	15,671	131,012	15,118	11,423	26,458	28%	12%	42%
Obstetrics	9,298	28,018	9	1,585	7,174	8%	0%	15%
Newborn	7,815	28,521	117		4,610	5%	0%	0%
Psychiatry	1,709	30,690	3,713	12	3,013	3%	12%	1%
Other	158	3,789	516	269	575	1%	14%	63%
Grand Total	55,395	394,161	30,738	43,061	93,858	100%	8%	44%

4.1.2 Program Changes over Study Period

From 1997/98 to 1999/00, there was a 6.5% reduction in short-term beds (excluding bassinets) at the Ottawa Hospital. The average occupancy of these beds increased from 90.0% to 96.0%. The Health Services Restructuring Commission (HSRC) used a target occupancy of 90% (or lower, e.g. paediatrics) in their hospital restructuring planning.

Exhibit 4.3
Ottawa Hospital Bed and Occupancy Trends

	Indicator	1997/98 Actual Year End	1998/99 Actual Year End	1999/00 Forecast Year End	% Change
Beds	Medical/Surgical	781	830	723	-7.4%
	Intensive Care	46	42	50	8.7%
	NICU Bassinets	25	25	25	0.0%
	Obstetrical	103	75	88	-14.6%
	Nursery Bassinets	117	117	101	-13.7%
	Mental Health	73	76	77	5.5%
	Total Short Term	1,003	1,023	938	-6.5%
Occupancy	Medical/Surgical	93.6%	90.2%	97.0%	3.6%
	Intensive Care	78.9%	98.6%	95.0%	20.4%
	NICU Bassinets	73.6%	78.4%	65.1%	-11.5%
	Obstetrical	67.4%	102.2%	90.0%	33.4%
	Nursery Bassinets	48.1%	51.7%	58.8%	22.3%
	Mental Health	90.0%	88.2%	89.0%	-1.2%
	Total Short Term	90.0%	91.3%	96.0%	6.7%

Source: Ottawa Hospital 2000/2001 Operating Plan. 1999/2000 Occupancy from MOHLTC.

From 1995/96 to 1999/2000, there was a 4.7% increase in the total inpatient and ambulatory procedure cases at the hospital sites now included in the Ottawa Hospital. Ambulatory procedure cases increased by almost 40%, while inpatient cases decreased by 12% and inpatient days by 13%.

Exhibit 4.4
Change in Ottawa Hospital Activity (IP and SDS) Volume from 1995/96 to 1999/2000

Activity Volume	95/96	96/97	97/98	98/99	99/00	Change from 95/96
Inpatient Cases	63,143	60,220	57,223	57,894	55,395	-12.3%
Total Days	451,945	424,618	400,424	415,893	394,161	-12.8%
ALC Days	47,411	48,722	35,091	38,418	30,738	-35.2%
IP Ontario Cost Wght.	88,242	87,071	84,847	87,602	84,841	-3.9%
Average OCW per IP Day	0.195	0.205	0.212	0.211	0.215	10.2%
Average OCW per IP Case	1.397	1.446	1.483	1.513	1.532	9.6%
Qual. SDS Cases	30,914	34,910	37,226	37,654	43,061	39.3%
Total IP & SDS Cases	94,057	95,130	94,449	95,548	98,456	4.7%
SDS Ont. Cost Wght.	7,457	8,394	9,109	9,309	9,017	20.9%
Total Ontario Case Weights	95,699	95,464	93,957	96,911	93,858	-1.9%
% Days Reported as ALC	10.5%	11.5%	8.8%	9.2%	7.8%	-25.7%
% Total IP & SDS as SDS	33%	37%	39%	39%	44%	33.1%

Source: CIHI patient separation data from MOHLTC data warehouse.

The shift from inpatient care to ambulatory care (particularly for surgical activity) resulted in a 3.9% decrease in Ontario Case Weights (OCW) over the 5-year period[78], since providing the surgery on an ambulatory basis is less costly than the corresponding inpatient surgery. However, the average OCW per inpatient case and per inpatient day increased by 10%, as the average intensity of care required by those cases that could not be shifted to ambulatory care was higher.

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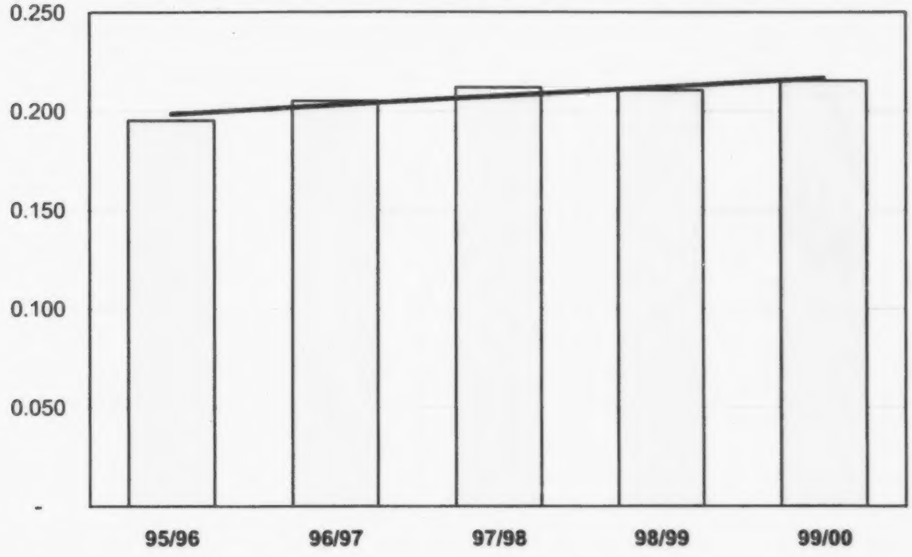
[78] All CIHI data for fiscal years 1995/96 to 1998/99 has been grouped using the CMG 1998 grouper. Data for fiscal year 1999/2000 is grouped using the CMG 1999 grouper.

Exhibit 4.5
Average TOH Ontario Case Weight per Patient Day Trend



The almost 40% increase in ambulatory procedure (SDS) cases was primarily due to the transfer of the Salvation Army Grace ophthalmology program (which was predominantly ambulatory surgical activity), part way through the 1999/2000 fiscal year, to the Ottawa Hospital.

The reduction in inpatient activity was the greatest (in percentage terms) for psychiatry (-22%) and least for newborns (-6%).

Exhibit 4.6
TOH Inpatient Case Volume Trend

Overall Program	1995	1996	1997	1998	1999	% Change
Surgery	23,666	22,553	21,218	21,700	20,744	-12%
Medicine	18,297	17,798	16,729	16,654	15,671	-14%
Obstetrics	10,540	9,616	9,333	9,474	9,298	-12%
Newborn	8,274	7,940	7,818	7,936	7,815	-6%
Psychiatry	2,195	2,162	1,989	2,013	1,709	-22%
Other	171	151	136	117	158	-8%
Grand Total	63,143	60,220	57,223	57,894	55,395	-12%

The reduction in resource requirement (for inpatient cases) over 5 years (as measured by Ontario Case Weights[79]) was greatest for psychiatry (-31%). Resource requirement for surgery increased slightly (0.6%) for the same period, and increased by 21% for newborn care.

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[79] All CIHI data for fiscal years 1995/96 to 1998/99 has been grouped using the CMG 1998 grouper and has been assigned the case weights associated with

Exhibit 4.7
Ontario Case Weight Trend

Overall Program	1995	1996	1997	1998	1999	% Change
Surgery	51,731	51,755	52,312	54,161	52,028	0.6%
Medicine	27,681	27,449	26,755	27,425	26,458	-4.4%
Obstetrics	7,630	7,198	6,966	7,101	7,174	-6.0%
Newborn	3,808	4,083	3,743	4,081	4,610	21.1%
Psychiatry	4,349	4,286	3,484	3,539	3,013	-30.7%
Other	501	694	696	603	575	14.8%
Grand Total	95,699	95,464	93,957	96,911	93,858	-1.9%

The tables on the following pages show trend information for total Ontario case weights and inpatient cases for individual PCCs.

CMG 1998. Data for fiscal year 1999/2000 is grouped using the CMG 1999 grouper (with CMG 1999 case weights).

Exhibit 4.8
Ontario Case Weight Trend by MOHLTC Program Cluster Category

MOH PCC	1995	1996	1997	1998	1999	% Change
Cardio/ Thoracic	12,575	13,112	13,037	14,224	13,115	4.3%
General Surgery	11,036	11,272	12,231	11,440	11,649	5.6%
Obstetrics	7,630	7,198	6,966	7,101	7,174	-6.0%
Orthopaedics	7,586	7,318	7,002	7,459	6,419	-15.4%
Trauma	6,180	6,079	5,982	6,340	5,642	-8.7%
Oncology	6,174	5,845	5,980	5,901	5,940	-3.8%
Cardiology	6,055	6,019	5,845	5,626	5,163	-14.7%
Neonatology	3,808	4,083	3,743	4,081	4,610	21.1%
Psychiatry	4,357	4,302	3,490	3,558	3,026	-30.6%
Pulmonary	3,414	3,529	3,460	3,865	3,867	13.3%
Gynaecology	3,464	3,466	3,442	3,497	3,123	-9.8%
Gastro/Hepatobiliary	3,144	3,295	3,357	3,417	3,034	-3.5%
Neurology	3,532	3,526	3,107	3,016	2,801	-20.7%
Urology	3,129	2,866	2,971	3,322	3,328	6.4%
Vascular Surgery	2,342	2,405	2,350	2,596	2,508	7.1%
General Medicine	2,218	2,365	2,262	2,395	2,880	29.8%
Neurosurgery	2,180	1,962	2,122	1,898	1,970	-9.6%
Ophthalmology	1,675	1,642	1,856	2,095	2,655	58.5%
Otolaryngology	1,459	1,368	1,227	1,338	1,199	-17.8%
Nephrology	975	808	811	799	837	-14.1%
Endocrinology	825	830	670	808	928	12.5%
Rehabilitation	455	641	643	566	530	16.5%
Haematology	454	510	538	598	446	-1.9%
Plastic Surgery	436	480	352	427	477	9.4%
Rheumatology	327	204	183	184	204	-37.6%
Dental/Oral Surgery	77	155	134	155	146	88.8%
Dermatology	118	106	110	131	98	-17.0%
Not Gen. Hosp.	72	77	83	73	85	17.3%
Ungroupable	1	2	0	0	3	408.6%
Grand Total	95,699	95,464	93,957	96,911	93,858	-1.9%

Exhibit 4.9
Inpatient Case Trend by MOHLTC Program Cluster Category

MOH PCC	1995	1996	1997	1998	1999	% Change
Obstetrics	10,540	9,616	9,333	9,474	9,298	-12%
Neonatology	8,274	7,940	7,818	7,936	7,815	-6%
General Surgery	5,209	4,841	4,797	4,522	4,301	-17%
Cardiology	4,794	4,740	4,525	4,297	3,839	-20%
Cardio/ Thoracic	3,574	3,875	3,552	3,752	3,893	9%
Orthopaedics	3,804	3,642	3,251	3,359	3,070	-19%
Oncology	3,058	2,717	2,534	2,466	2,410	-21%
Gastro/Hepatobiliary	2,635	2,601	2,563	2,574	2,494	-5%
Trauma	2,697	2,605	2,381	2,527	2,285	-15%
Pulmonary	2,240	2,369	2,264	2,339	1,959	-13%
Urology	2,247	2,062	2,044	2,140	1,999	-11%
Gynaecology	2,231	2,078	2,038	2,026	1,918	-14%
Psychiatry	2,200	2,170	1,992	2,020	1,715	-22%
Neurology	1,885	1,822	1,616	1,607	1,496	-21%
General Medicine	1,631	1,644	1,577	1,587	1,772	9%
Otolaryngology	1,112	949	807	888	889	-20%
Ophthalmology	1,089	888	757	787	693	-36%
Vascular Surgery	815	814	731	827	775	-5%
Neurosurgery	668	611	643	661	660	-1%
Endocrinology	642	653	506	562	590	-8%
Nephrology	521	458	448	459	438	-16%
Haematology	387	410	391	410	383	-1%
Not Gen. Hosp.	244	185	190	227	256	5%
Rheumatology	258	163	142	125	119	-54%
Rehabilitation	89	121	134	107	140	57%
Plastic Surgery	133	117	91	106	103	-23%
Dermatology	93	75	61	76	63	-32%
Dental/Oral Surgery	71	50	37	30	15	-79%
Ungroupable	2	4		3	7	250%
Grand Total	63,143	60,220	57,223	57,894	55,395	-12%

Ambulatory visit volume data was taken from the Ottawa Hospital MOHLTC Year-end Supplementary reports. There appear to be discrepancies between fiscal years in reporting of Day/Night visits, but the overall volume has increased by 13.4% over the five-year period. There has also been a 5.8% increase in emergency room visits over the same period, and a 9.2% decline in clinic visits.

Exhibit 4.10
Ambulatory Activity Trends for The Ottawa Hospital

Ambulatory Statistics	1995/96	1996/97	1997/98	1998/99	1999/00	% Change
Emergency Visits	131,566	127,575	125,561	132,962	139,243	5.8%
Day/Night Care						
Surgical & Endoscopy Cases	28,178	23,514	22,755	4,008	28,453	1.0%
Surgical & Endoscopy Visits	23,057	10,389	29,761	30,514	17,217	-25.3%
Other Day/Night Care Visits	73,089	72,851	82,760	30,972	91,824	25.6%
Total Day/Night Care Visits	96,146	83,240	112,521	61,486	109,041	13.4%
Clinic Visits	447,976	436,898	436,280	425,306	406,549	-9.2%

Source: MOHLTC Year-end Supplementary reports

4.2 Populations' Utilization of Hospital Programs

This section of the report focuses on patterns of utilization of health care services by the residents of Ottawa-Carleton. While the Ottawa Hospital is the major provider of hospital services to Ottawa-Carleton residents, other acute care hospitals and many non-acute service providers share the responsibility of meeting the health care needs of the local population.

These population-based comparisons of utilization are provided as context for the interpretation of the Ottawa Hospital-specific analyses. Analysis of utilization of non-hospital services can provide insights into patterns of use of hospital services. For example, in a community with a under-developed or under-resourced primary care system, emergency room and inpatient hospital utilization might be expected to be high, since the hospital acts as the "safety net" for an inadequate non-institutional health system.

The utilization rates presented here are based on use of health services by the residents of specific municipalities (Ottawa-Carleton, and the other three Ontario municipalities served by major academic health centres, London, Toronto, and Hamilton). They include health care services provided for municipality residents anywhere in Ontario. They do not include services provided in health care providers, located in the municipality, for non-residents. Where possible, utilization rates are "age-gender standardized" (using 5-year age/gender cohorts) to adjust for potential differences in the age and gender composition of the populations.

As an example, of population-based measures, the following table shows the data published by the Canadian Institute for Health Information in *Health Care in Canada 2000: A First Annual Report*.

Exhibit 4.11
CIHI Population-Based Hospital System Service Measures

District Health Council	Days Over Expect.	May Not Require Hosp.	Hip Fracture Hosp.	Pneum. & Flu Hosp.	Amb. C. Sens. Cond.	Caesar. Sections	VBAC	Low Birth Weight
	# of Days	% of hosp.	Std. rate	Std. rate	Std. rate	% of deliv.	% prev. C-S	% of births
	1998/99	1998/99	1997/98	1997/98	1997/98	1997/98	1997/98	1997
Champlain Ottawa - Rank	**Highest**	**Low**	**Very Low**	**Avg.**	**Avg.**	**Low**	**High**	**High**
Champlain Ottawa	**0.02**	**6.5**	**548**	**1,172**	**318**	**17.0**	**36**	**5.9**
Sudbury & area	-0.14	7.6	685	1,480	668	22.1	21	5.9
Northwestern Ontario	-0.17	7.9	671	1,283	633	20.3	32	4.3
Quinte, Kingston, Rideau	-0.22	5.7	688	1,441	352	21.2	31	5.7
Halton-Peel	-0.32	6.2	528	959	301	19.2	36	5.8
Muskoka Nippising	-0.32	8.3	767	1,489	536	24.2	15	5.0
Hamilton-Wentworth	-0.33	5.1	566	993	239	18.7	39	6.2
Niagara	-0.36	7.0	577	922	473	18.7	32	5.6
Essex Kent Lambton	-0.40	8.1	603	1,015	610	18.3	40	5.8
Durham Hal. Kawartha	-0.44	7.1	696	1,384	338	21.0	28	5.5
Toronto	-0.47	6.3	559	931	316	20.1	32	6.6
Grey Bruce Huron Perth	-0.49	8.0	737	1,516	582	20.0	29	5.4
Thames Valley London	-0.54	7.1	672	901	321	14.8	43	5.5
Simcoe-York	-0.61	7.1	689	1,182	317	20.5	31	5.8
Waterloo-Welling.-Duff.	-0.71	6.0	640	1,131	307	17.2	39	5.1
Grand River Brantford	-0.96	5.7	619	1,304	483	17.3	38	5.3

The regional results presented in the CIHI report are organized according to District Health Council. The Ottawa area is included in the Champlain District Health Council.

The acute care hospital length of stay for the residents of the Champlain DHC is slightly longer than the expected length of stay calculated by CIHI. The Champlain DHC is the only region in Ontario where acute care patients have a length of stay in excess of the CIHI expected length of stay. A subsequent section of this report examines length of stay patterns for TOH and compares them with lengths of stay in other Ontario teaching hospitals.

To supplement the analysis of hospital utilization for this study, the MOHLTC provided non-acute care hospital utilization data for residents of Ottawa-Carleton, London, Hamilton, and Toronto.

Exhibit 4.12
Non-Acute Utilization Comparisons for Populations Served by Major Academic Health Science Centres

Utilization Indicator	Derivation	Population Served by Academic Health Science Centre(s)				Ottawa Rank
		London	Hamilton	Toronto	Ottawa	
Chronic Care	1999/00 Beds per 1,000 over 75 yrs	15.8	14.0	14.2	12.7	Lowest
Long Term Care	1998/99 Days per Pop'n over 75 yrs	34.0	24.1	29.0	29.8	Average
Home Care Homemaking	1999/00 Hours per 1,000 population	103	231	155	175	Average
Home Care Nursing	1999/00 Hours per 1,000 population	295	493	471	478	Average
Inpatient Rehab	1998/99 Cases per 10,000 population (age/gender std.)	13.2	13.4	25.9	7.4	Lowest
Inpatient Rehab	1998/99 Days per 10,000 population (age/gender std.)	357.0	488.0	794.0	376.0	Low
Inpatient Rehab	1998/99 Average Inpatient LOS	27.0	36.4	30.7	50.8	Highest
Primary Care Physicians	1999 Non-Specialist physicians per 10,000 pop'n	10.1	8.6	10.8	11.3	Highest
"Avoidable" Hospitalizations	Admissions per 10,000 population (age/gender std.)	38.9	50.9	45.9	37.2	Lowest

The results of the comparison show:

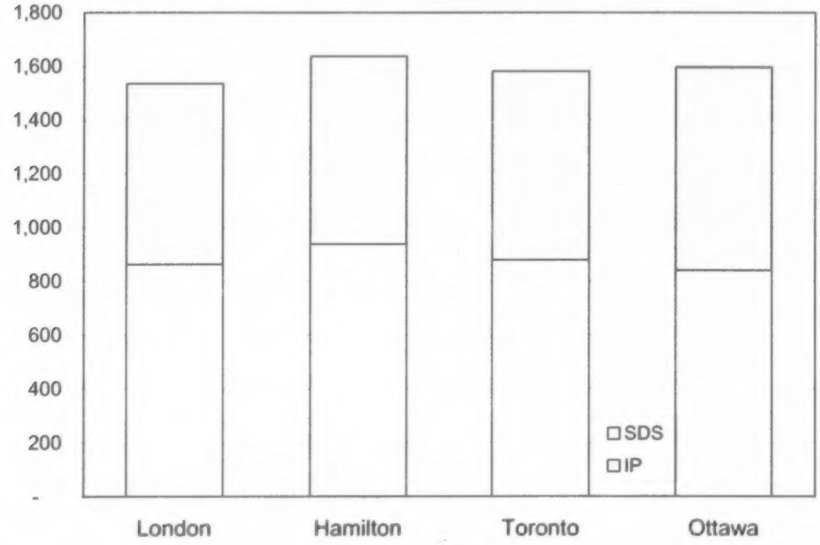
- Lower utilization/capacity of chronic care beds in Ottawa. The Health Services Restructuring Commission (HSRC) established a planning standard of 8.23 complex continuing care beds per 1,000 population over 75 years old.
- Utilization/capacity of LTC beds (nursing home, home for the aged) similar to Toronto, higher than Hamilton, lower than London.
- Home care (nursing and homemaking) similar to Toronto, higher than Hamilton, lower than London.
- Fewer patients access inpatient rehabilitation in Ottawa, but LOS is longer once admitted (this may reflect a focus on neuroscience rehabilitation versus a musculoskeletal rehabilitation focus elsewhere, e.g. Toronto).
- Primary care physician supply is good. There is no evidence of a high rate of hospitalization for conditions amenable to primary care treatment.

The overall implication of these comparisons is that the availability of non-acute health care services for the residents of Ottawa-Carleton is not substantially different from that for residents of the other three major academic health science centre communities. However, the lower apparent supply/utilization of chronic and rehabilitation beds may make it more difficult for Ottawa-Carleton residents to be transferred to these services immediately following conclusion of their acute care inpatient stay.

For the purposes of these comparisons of utilization of acute care services, utilization is measured as the number of inpatient and SDS cases per 10,000 age/gender standardized population. The Ontario 1999 population has been used for standardization so that the impact of differences in population age distribution for each community can be minimized.

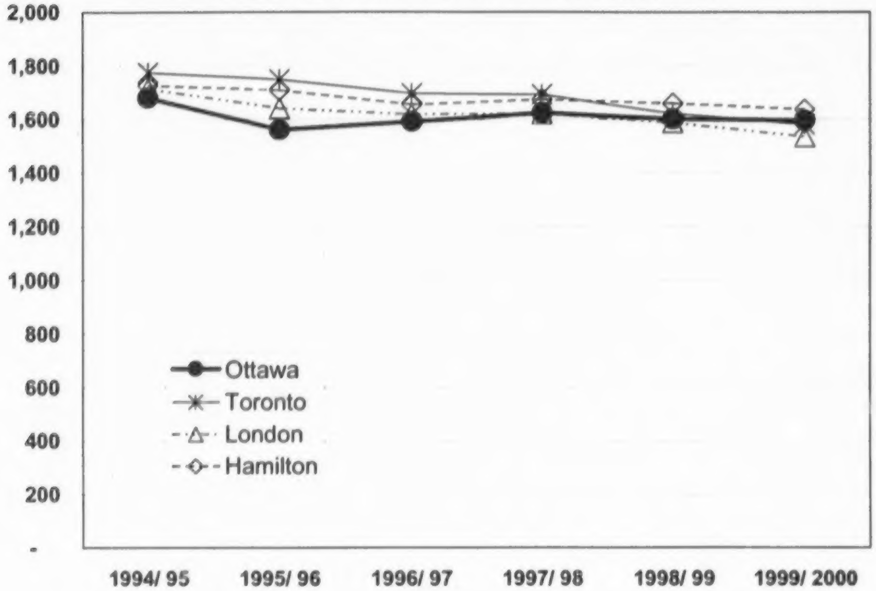
The overall utilization of acute care hospital services by the residents of Ottawa-Carleton is similar to the utilization of residents of the other major AHSC communities (Toronto, Hamilton, and London). This is consistent with the results of other studies that show similar (low) acute care utilization rates in communities that rely on major teaching hospitals.

Exhibit 4.13
Acute Care Utilization - 1999/2000, IP & SDS Cases per 10,000 Standardized Population



The acute care utilization rate has remained constant, at approximately 1,600 separations per 10,000 population for Ottawa-Carleton residents for the past 5 years.

Exhibit 4.14
Acute Care Utilization Trends – IP & SDS Cases
Per 10,000 Age/Gender Standardized Population



When the acute care utilization is subdivided (using the Hay Level of Care Assignment methodology for CMG 1999, but treating ambulatory procedure utilization separately) by level of care, only SDS utilization for Ottawa-Carleton residents is significantly different (and higher) from other regions.

Exhibit 4.15
Acute Care Utilization by Level of Care -
Cases per 10,000 standardized population

Hospital Service Type	London	Hamilton	Toronto	Ottawa
SDS	673	700	703	756
Primary IP	384	416	414	387
Secondary IP	359	380	354	342
Tertiary IP	120	142	110	111
Total	1535	1637	1581	1596

As subsequent analyses will show, this difference is entirely due to the high rate of utilization of ophthalmologic surgery by Ottawa-Carleton residents.

4.2.1 Program Population Utilization Rates

When acute care utilization is subdivided by broad program, the Ottawa-Carleton utilization rate is lower (than then comparator communities) for Medicine and higher for Surgery.

Exhibit 4.16
Acute Care Utilization by Program – IP & SDS
Cases per 10,000 Standardized Population

Hospital Service Type	London	Hamilton	Toronto	Ottawa
Medicine	273	347	301	261
Newborn	115	122	131	127
Obstetrics	131	130	133	133
Surgery	966	991	953	1017
Psychiatry	49	47	57	54
Other	0	1	5	4
Total	1535	1637	1581	1596

When the utilization rate is further subdivided by HSRC "Program Roll-Up", the Ottawa-Carleton population utilization rate is not significantly different (using 95% confidence intervals) from the other three communities for any program except for Ophthalmology.

Exhibit 4.17
Acute Care Utilization by "Program Roll-up" – IP & SDS Cases per 10,000 Standardized Population

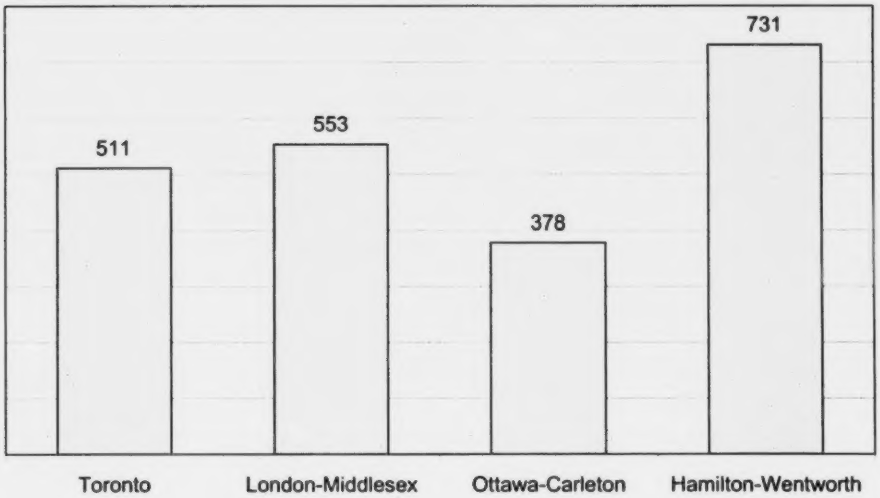
HSRC Program "Roll-Up"	Utilization Rate				Ottawa Significantly Different (95% CI)?
	Toronto	London-Middlesex	Ottawa-Carleton	Hamilton-Wentworth	
All	1,580.5	1,535.4	1,595.4	1,637.2	No
General Surgery	279.0	274.9	290.9	327.4	No
Medicine	271.9	244.4	231.1	317.9	No
Ophthalmology	**87.8**	**99.1**	**171.9**	**89.2**	**Higher**
Urology	181.6	162.8	144.8	136.9	No
Obstetrics	132.7	130.9	132.6	130.0	No
Gynaecology	128.6	116.5	129.9	116.9	No
Orthopaedics	112.4	159.4	128.6	159.1	No
Neonate	131.0	115.3	126.7	122.0	No
Otolaryngology	75.2	60.2	65.6	75.7	No
Psychiatry	56.8	49.2	53.9	47.1	No
Oncology	29.4	29.0	30.1	29.3	No
Cardio Thoracic	26.4	25.8	28.3	31.3	No
Vascular Surgery	18.4	23.6	19.5	16.9	No
Neurosurgery	14.4	19.6	18.7	20.7	No
Dental	14.3	17.0	13.4	9.0	No
Plastic Surgery	15.4	7.1	5.5	8.0	No
Rehabilitation	4.6	0.4	3.8	0.1	No
Ungroupable	0.6	0.1	0.1	-	No

The Ottawa-Carleton Ophthalmology utilization rate is 171.9 separations per 10,000 age/gender-standardized population, 73% higher than the next highest community (London, at 99.1).

4.2.2 Other Acute Care Utilization Rates

CIHI records support documentation of "special care unit" (SCU) days. The SCU designation is intended for capture of ICU, CCU, burn unit, etc. The identification of units (and days of stay in these units) as SCU is not necessarily consistently used across organizations. However, because the adequacy of the TOH intensive care capacity has been raised as an issue during this review, we have examined the reported population-based rate of use of SCU days for Ottawa-Carleton.

Exhibit 4.18
Special Care Unit Inpatient Days per 10,000 Age-Gender Standardized Population



There is significant variation across the four academic health science communities in SCU day rates, with the lowest rate found for residents of Ottawa-Carleton.

Alternative Level of Care ALC Days

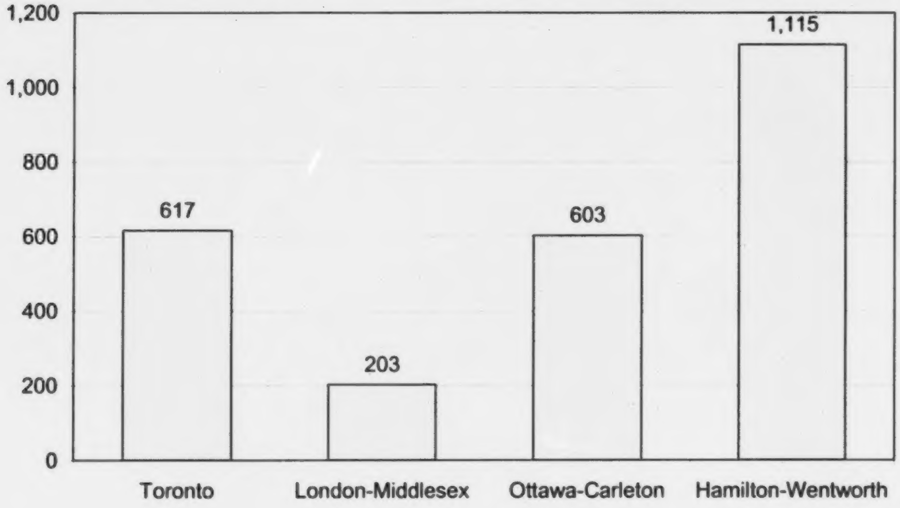
Inpatient separation records reported by Ontario hospitals to CIHI include documentation of the date upon which an inpatient no longer requires acute care. Subsequent days of care in an acute care inpatient bed are referred to as "alternate level of care" (ALC) days. Comprehensive tracking of ALC days has been mandated by the MOHLTC in Ontario, and CIHI provides guidelines to assist hospitals with the identification of ALC patients and days.

Because ALC days are most often associated with elderly medical patients who require some form of long-term care following their acute care stay, population-based measures of ALC days have been used to guide investment in future long-term care capacity.

The pattern of ALC day utilization for the four AHSC communities closely follows the pattern of distribution of long-term care beds. Hamilton has the lowest long-term care bed capacity and the highest ALC day rate (almost double Ottawa and Toronto), while London has the highest long-term care bed capacity and the lowest ALC day rate (one third of Ottawa and Toronto). There will be 466 new long-term care beds available in Ottawa-Carleton before the end of 2002[80], which will bring the long-term care bed capacity for Ottawa-Carleton closer to the capacity of London.

Exhibit 4.19

99/00 Recorded ALC Days per 10,000 Age-Gender Standardized Resident Population for Academic Health Science Centre Communities



The ALC days as recorded on CIHI data for the Ottawa Hospital in 1999/2000 are less than the ALC days recorded by the Ottawa Hospital Discharge Planning staff. The population-based ALC rate for O-C may be artificially low if the Ottawa Hospital has not been comprehensively capturing ALC days on CIHI records.

MNRH Utilization Rate

A subset of Case Mix Groups have been categorized by CIHI as "May Not Require Hospitalization" (MNRH). The MNRH day utilization rate for Ottawa-Carleton residents is lower than the rate for London, but not significantly different from Toronto and Hamilton.

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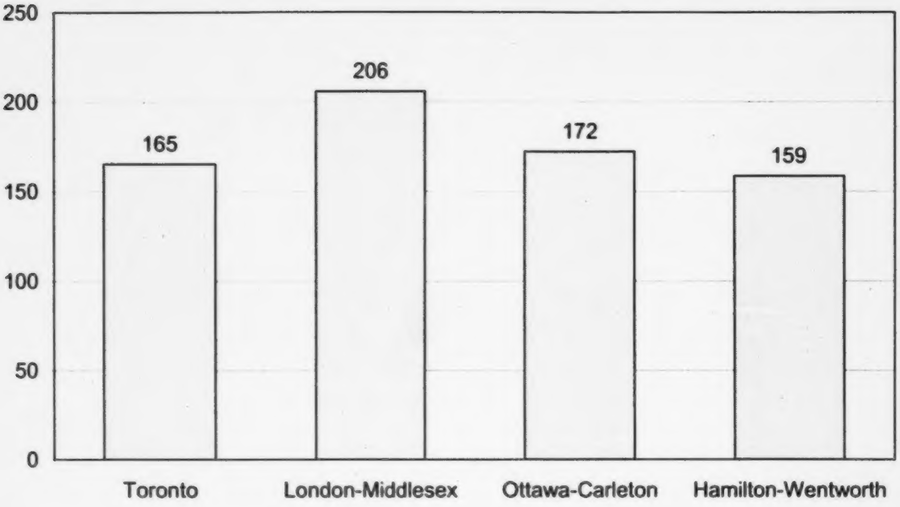
[80] Communication from the MOHLTC , 3/12/01.

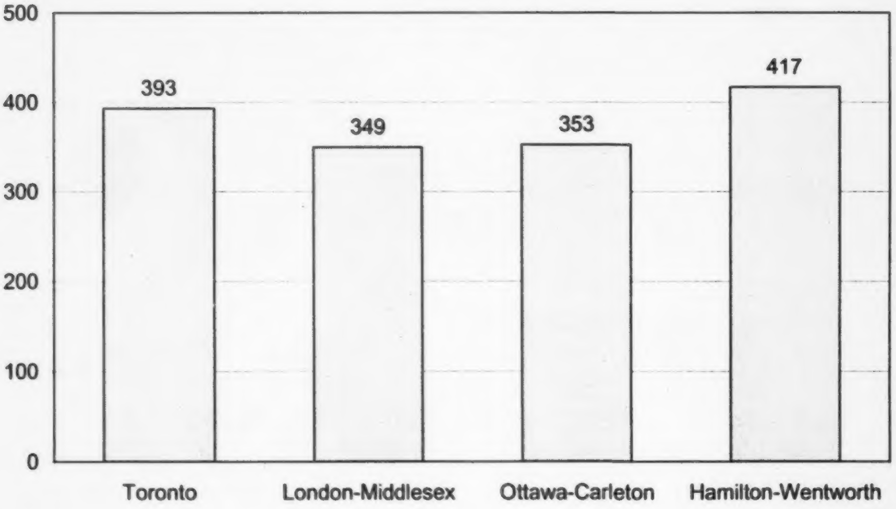
Exhibit 4.20
99/00 MNRH Days per 10,000 Standardized Population for AHSC Communities



Rate of Admissions via ER

Ottawa-Carleton and London residents have the lowest rate of acute care admission via the emergency room.

Exhibit 4.21
99/00 Admits via ER per 10,000 Standardized Population for AHSC Communities



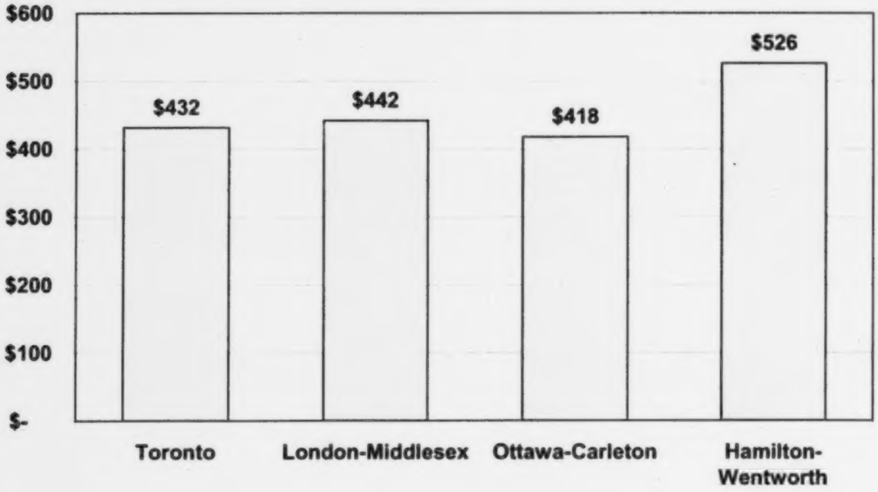
Hospital Expenditures per Population

The following table shows the average hospital expenditures per population for each of the four AHSC communities.

The average cost has been calculated by combining the Ontario Case Weight (OCW) values for each inpatient and SDS case for residents in 1999/2000, with the hospital-specific cost per OCW (based on JPPC 1998/99 cost per OCW data).

The results reflect a combination of utilization rates and the cost structures of the hospitals on which the populations most depend for acute care. Only inpatient and ambulatory procedure activity and costs are included in the comparison. It is not possible to allocate the costs of other services (such as emergency visits or ambulatory clinic activity) to individuals or populations. It is also not possible to compare revenue per population, since revenue (particularly MOHLTC funding) specifically for inpatient and ambulatory procedure activity is not identified.

Exhibit 4.22
Standardized Hospital (IP and SDS) Cost per Resident
(99/00 CIHI data, 98/99 Cost per OCW)



Ottawa-Carleton residents have an acute care cost per capita slightly lower than residents of Toronto and London, and 20% lower than residents of Hamilton.

4.2.3 Opportunities to Reduce Hospital Use

The acute care separation rate (IP and SDS) per 10,000 population for residents of Ottawa-Carleton is similar to acute care utilization for residents of Toronto, Hamilton, and London. The only program for which Ottawa-Carleton acute care utilization is significantly higher is ophthalmology (which is primarily provided on an ambulatory surgery basis).

Exhibit 4.23
Ophthalmology Cases per 10,000 Population for AHSC Communities, by Procedure and/or Modality

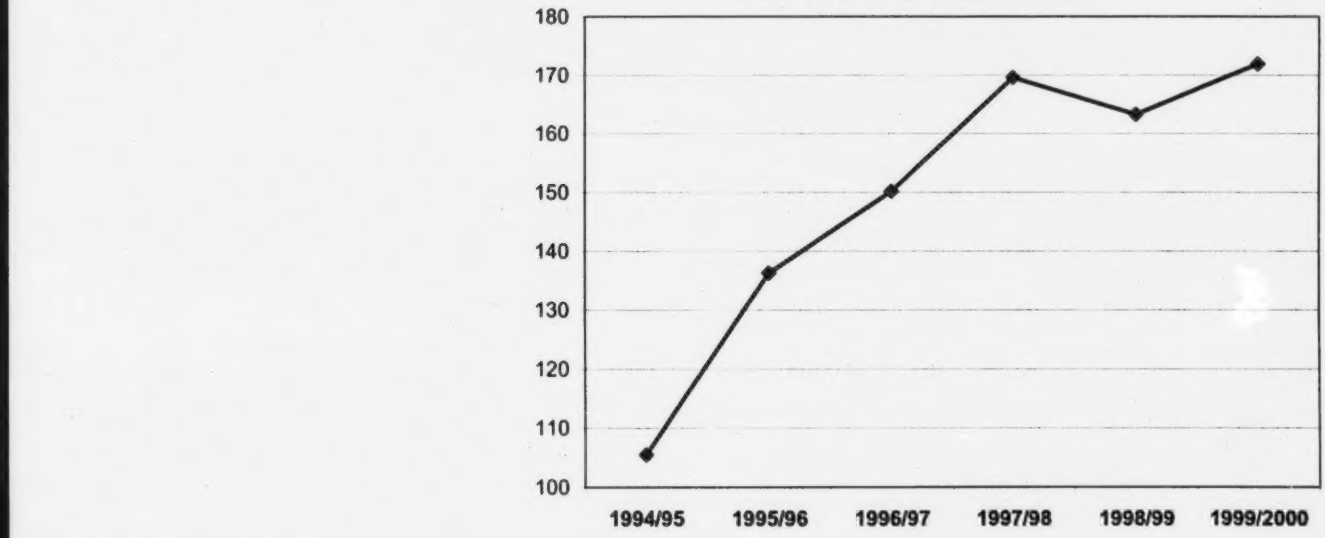
Modality and/or Procedure		Toronto	London-Middlesex	Ottawa-Carleton	Hamilton-Wentworth
Inpatient		5.1	5.4	4.7	5.6
Ambulatory Procedures	Orbital & Other Eye Procedure	8.3	4.9	10.6	5.0
	Lens Procedures	63.4	68.2	117.3	66.7
	Iris And Other Eye Procedures	1.0	1.4	4.8	0.3
	Strabismus Surgery	2.2	1.7	3.1	2.3
	External Eye Procedures	7.7	17.5	31.5	9.4
Total Ophthalmology		87.8	99.2	172.0	89.3

The high ophthalmology utilization rate (relative to the other communities) may reflect:

- Unmet need for hospital-based ophthalmology services in other communities, leading to inappropriately low utilization (compared to potentially appropriate rates in Ottawa-Carleton), or,
- Over-utilization of hospital-based ophthalmology services in Ottawa-Carleton

From 1994/95 to 1997/98, there was a 65% increase in the ophthalmology case rate for Ottawa-Carleton.

Exhibit 4.24
Trend of Ottawa-Carleton Ophthalmology Cases per 10,000 Population



This increase is not explained by increases in non-OHIP ophthalmologic procedures; more than 98% of Ottawa-Carleton procedures are paid for by OHIP.

There is no information available to support a definitive conclusion that ophthalmology services are over-utilized in Ottawa-Carleton. However, support for hospital-based ophthalmology for the residents of Ottawa-Carleton could be reduced without disadvantaging O-C residents, relative to residents of other Ontario communities.

In order to achieve greater consistency with access to care in other Ontario communities, the Ottawa Hospital should not increase the number of ophthalmologic surgeons with hospital appointments and, as a general rule should not replace ophthalmologic surgeons who leave the hospital. (The exception would be to replace ophthalmologic surgeons who provided unique services that could not be provided by other existing members of the staff of the hospital.) This will also, over time, reduce the resources directed to ophthalmologic surgery (at the expense of other population needs for care).

It is recommended that:

(21) The Ottawa Hospital should only selectively replace ophthalmologic surgeons until Ottawa-Carleton population utilization rates for ophthalmologic surgery are more consistent with those in other communities in Ontario.

(22) The Hospital and MOHLTC should sponsor a 3rd party clinical review of the medical necessity of ophthalmologic procedures for the residents of Ottawa-Carleton.

The utilization comparisons have focused on case or separation rates per population, not patient day rates. While there may be few apparent opportunities to reduce acute care hospital case or separation rates, the analyses of clinical efficiency (presented in a later section of this report) show that there are opportunities to reduce lengths of stay and the overall reliance on inpatient acute care beds without reducing the number of patients treated in Ottawa hospitals. This suggests an opportunity to reduce total patient days and the patient day rate.

4.3 Population Dependence on TOH

The analyses presented in section 4.2 of this report were based on analysis of CIHI data for residents of Ottawa-Carleton. Analyses of the population dependence on the Ottawa Hospital use the same CIHI data, but identify the portion of all of the hospitalizations for residents of the broader catchment population of the Ottawa Hospital that are provided by the Ottawa Hospital.

4.3.1 TOH Program Market Share

The following table shows the percent of all inpatient and qualifying ambulatory procedure cases (SDS cases) in 1999/2000 for residents of each community, that were provided by the Ottawa Hospital. This analysis incorporates editing and correction of Ottawa Hospital data.[81]

For purposes of this analysis, all ophthalmology cases for the Salvation Army Grace Hospital in 1999/2000 have been re-categorized as Ottawa Hospital activity.

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[81] In 1999/2000, Ottawa Hospital patients who were resident in certain communities were not accurately assigned to a residence code. The MOHLTC postal code conversion file facilitated re-assignment of residence codes, based on full postal codes.

Exhibit 4.25
Percent of IP and SDS Separations for Residents provided by the Ottawa Hospital (1999/2000)

Res Code	Residence Code Name	Total TOH Volume	TOH Market Share %					
			Primary	Scnd'ry	SDS	Non-Tertiary	Tertiary	Total
2501	OTTAWA	42,876	73%	74%	75%	74%	81%	75%
2508	GLOUCESTER	10,843	69%	68%	69%	69%	72%	69%
2514	NEPEAN	10,605	59%	56%	61%	59%	68%	60%
2506	CUMBERLAND	4,116	67%	65%	65%	66%	72%	66%
2512	KANATA	3,398	49%	46%	51%	49%	58%	50%
2502	VANIER	1,859	44%	46%	57%	51%	74%	52%
2515	OSGOODE	1,669	71%	71%	70%	70%	80%	71%
2517	GOULBOURN	1,568	42%	41%	49%	45%	62%	46%
3401	CORNWALL	1,427	4%	15%	10%	10%	44%	12%
3021	CLARENCE-ROCKLAND	1,274	39%	48%	40%	42%	78%	43%
2518	RIDEAU	1,038	54%	63%	70%	65%	79%	66%
2519	WEST CARLETON	990	30%	42%	43%	39%	61%	41%
1632	GRENVILLE NORTH	911	31%	31%	38%	34%	73%	36%
3201	PEMBROKE	786	3%	15%	32%	17%	58%	20%
3018	RUSSELL	785	46%	45%	43%	44%	75%	46%
1521	MISSISSIPPI MILLS	739	10%	26%	40%	27%	66%	30%
3431	DUNDAS NORTH	737	17%	31%	36%	29%	75%	32%
3204	RENFREW	606	19%	25%	32%	27%	62%	30%
1503	CARLETON PLACE	525	16%	23%	33%	26%	60%	27%
3001	HAWKESBURY	517	8%	25%	25%	20%	65%	23%
3202	ARNPRIOR	485	16%	18%	39%	26%	54%	27%

For example, in 1999/2000, the Ottawa Hospital had 42,876 separations for Ottawa residents. The Ottawa Hospital provided 73% of all of the primary hospital care, 74% of secondary, and 75% of same day surgery, used by Ottawa residents. For all of this non-tertiary activity combined, the Ottawa Hospital provides 74% of the hospital services used by Ottawa residents (the remaining 26% was provided by other providers, such as CHEO, Monfort, and Queensway Carleton Hospital. The Ottawa Hospital provided 81% of the tertiary care for Ottawa residents.

The maps on the following page show the percent market share capture for the Ottawa Hospital for non-tertiary activity and for tertiary activity. The darker the shading, the higher the market share (black areas are those where the Ottawa Hospital provides more than 50%).

Exhibit 4.26
The Ottawa Hospital % Market Share for Non-Tertiary Hospitalizations of Residents of Eastern Ontario

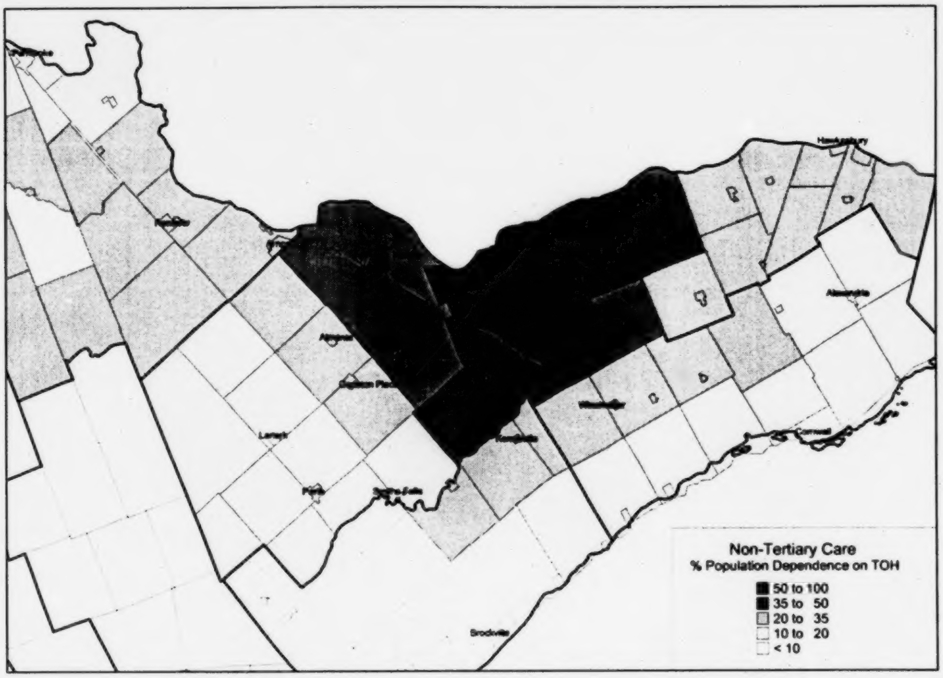
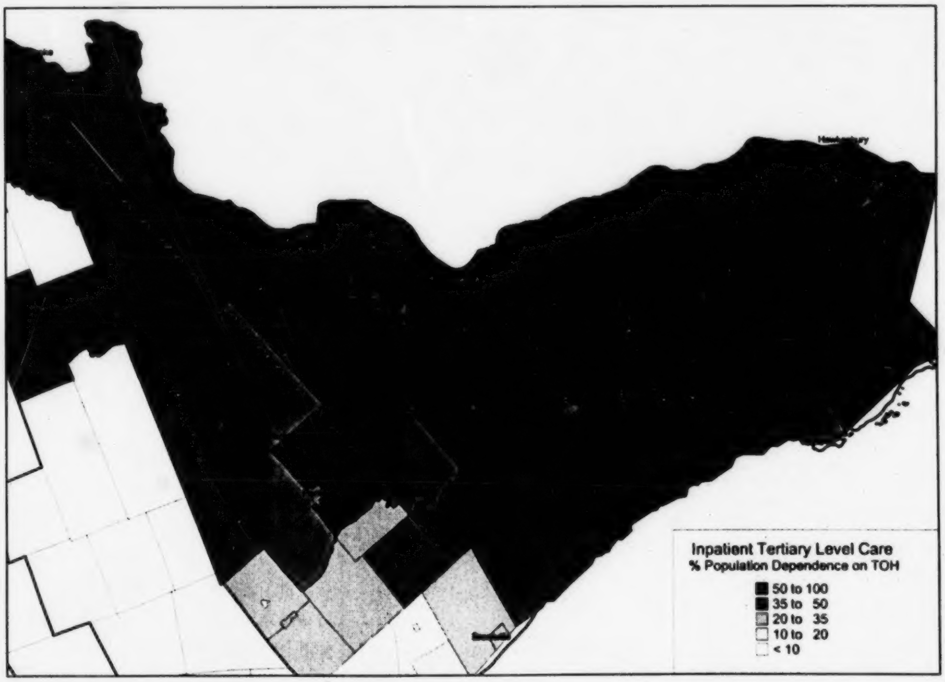

Hawkesbury
Almonte
Lanark
Perth
Winchester
Alexandria
Cornwall
Brockville
Non-Tertiary Care
% Population Dependence on TOH
■ 50 to 100
■ 35 to 50
▨ 20 to 35
☐ 10 to 20
☐ < 10

Exhibit 4.27
The Ottawa Hospital % Market Share for Tertiary Hospitalizations of Residents of Eastern Ontario


Hawkesbury
Inpatient Tertiary Level Care
% Population Dependence on TOH
■ 50 to 100
■ 35 to 50
▨ 20 to 35
☐ 10 to 20
☐ < 10

The Ottawa Hospital is the major provider of tertiary care for a large geographic region. The Ottawa Hospital's non-tertiary role is more limited to the communities in close proximity to Ottawa, but it does extend into the Ottawa valley.

4.3.2 Utilization by Patients from Outside Catchment Area

An alternative approach to assessing the geographic scope of the Ottawa Hospital role is to examine what percent of Ottawa Hospital non-tertiary care is provided for patients who live outside the region of Ottawa-Carleton. For the purposes of these analyses, the Salvation Army Grace ophthalmology activity in 1999/2000 has been included in the Ottawa Hospital activity.

Overall, 23% of the non-tertiary activity of the Ottawa Hospital was provided for non-residents of Ottawa-Carleton. The programs with the largest volumes of non-residents, and the program's percent of all TOH non-resident activity, are:

- Ophthalmology, 5,012 cases, 22% of all TOH non-resident activity
- General Surgery, 2,977 cases, 13% of non-resident activity
- Gynaecology, 2,014 cases, 9% of non-resident activity

Exhibit 4.28
% Of Ottawa Hospital Non-Tertiary Activity Provided for Non-Residents of Ottawa-Carleton, by Program

Program Cluster Category	TOH Non-Tertiary Activity for Non-Residents of Ottawa Carleton		
	IP & SDS Cases	% of All TOH Activity in Program	% of All TOH Activity for Non-Residents
Cardio/ Thoracic	227	49%	1%
Not Gen. Hosp.	98	38%	0%
Trauma	608	33%	3%
Oncology	537	32%	2%
Cardiology	1,094	32%	5%
Nephrology	108	31%	0%
Otolaryngology	1,105	30%	5%
Ophthalmology	5,012	30%	22%
Rheumatology	27	30%	0%
Vascular Surgery	330	30%	1%
Orthopaedics	1,472	29%	7%
Neurosurgery	245	28%	1%
Haematology	84	25%	0%
Dermatology	13	25%	0%
TOH Total/Average	22,305	23%	100%
Neurology	298	23%	1%
General Medicine	353	23%	2%
Gynaecology	2,014	22%	9%
Gastro/Hepatobiliary	512	21%	2%
Plastic Surgery	33	21%	0%
General Surgery	2,977	20%	13%
Urology	1,649	19%	7%
Dental/Oral Surgery	94	17%	0%
Endocrinology	94	17%	0%
Obstetrics	1,599	17%	7%
Psychiatry	271	17%	1%
Neonatology	1,175	16%	5%
Pulmonary	271	15%	1%
Rehabilitation	5	6%	0%
Ungroupable	-	0%	0%

In parallel with the Ottawa Hospital clinical review, a review of the Queensway-Carleton Hospital is underway, and a strategic planning initiative for the West Ottawa Valley Network (the smaller hospitals in the West Ottawa Valley and Queensway-Carleton Hospital, the proposed Level C hospital for the network). These other initiatives are examining the opportunities to "patriate" hospital services, currently provided in Ottawa for residents of the west Ottawa valley, to either the Queensway-Carleton or the smaller West Ottawa Valley Network hospitals. The following table shows the volumes and percent of TOH non-tertiary activity provided for residents of Lanark, Leeds and Grenville, and Renfrew counties.

Exhibit 4.29
% of TOH's Total Non-Tertiary Activity Provided for Residents of Lanark, Leeds, Grenville, and Renfrew

Program Cluster Category	TOH Non-Tertiary Activity for Residents of Lanark, Leeds, Grenville, Renfrew	
	Cases	% of Total TOH Activity
Ophthalmology	2,799	17%
General Surgery	1,055	7%
Gynaecology	552	6%
Urology	545	6%
Obstetrics	525	6%
Orthopaedics	523	10%
Cardiology	491	14%
Neonatology	378	5%
Otolaryngology	289	8%
Trauma	250	14%
Oncology	202	12%
Gastro/Hepatobiliary	188	8%
Vascular Surgery	124	11%
General Medicine	117	7%
Neurology	112	9%
Psychiatry	110	7%
Neurosurgery	93	11%
Cardio/ Thoracic	91	20%
Pulmonary	78	4%
Dental/Oral Surgery	58	11%
Nephrology	42	12%
Not Gen. Hosp.	36	14%
Endocrinology	31	6%
Haematology	21	6%
Plastic Surgery	16	10%
Rheumatology	5	6%
Dermatology	3	6%
Rehabilitation	1	1%
Ungroupable	-	0%
Grand Total	8,735	9%

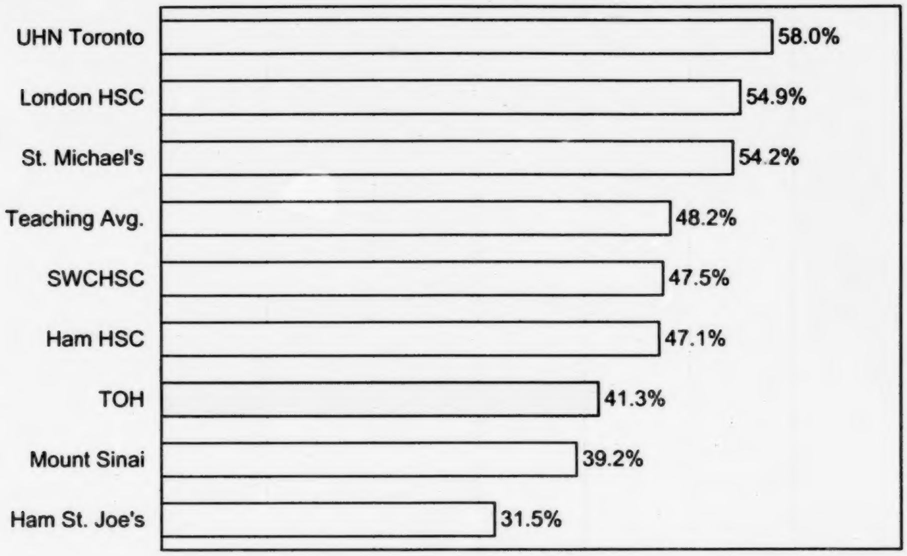
Only 9% of Ottawa Hospital non-tertiary activity is provided for residents of these counties. However, almost 4,000 TOH ophthalmology and general surgery cases are provided for the residents in these counties.

4.3.3 Repatriation Opportunities

The Ottawa Hospital has a lower overall tertiary emphasis than most Ontario teaching hospitals.

Exhibit 4.30

1999/2000 Percent of Total Ontario Case Weights Contributed by Tertiary Cases for Selected Ontario Teaching Hospitals



The statistics shown above do not incorporate the full impact of the transfer of the Salvation Army Grace ophthalmology activity to the Ottawa Hospital. Inclusion of this mostly non-tertiary activity in the Ottawa Hospital weighted case base would further dilute the tertiary emphasis.

As well, Ottawa Heart Institute activity is included in the Ottawa Hospital data. If Heart Institute activity were separated from the Ottawa Hospital activity, the tertiary percentage for the residual Ottawa Hospital activity would drop further.

Given the current Ottawa Hospital volumes, a reduction in non-tertiary volumes for the Ottawa Hospital would not be likely to jeopardize the clinical activity critical mass requirements for teaching and research. Such a reduction, particularly if accomplished by transferring activity to lower cost, non-teaching, hospitals, could reduce the overall cost of providing care, allow more residents of communities outside Ottawa-Carleton to receive their care closer to home, and create a clinical activity profile for the Ottawa Hospital that is more consistent with other major Ontario teaching hospitals.

The Queensway-Carleton Hospital is developing a proposed revised role for QCH (including expanded capacity and scope of service). As directed by the Bridging Committee (a committee with representation from both the TOH and QCH reviews, with a mandate to ensure consistency in analyses and proposed directions), as this revised role is articulated, the QCH patriation assumptions will be considered in the TOH clinical review, from the perspective of feasibility, potential resource impact, and necessary prerequisites to change patient and physician hospital utilization patterns.

If the capacity of the QCH (and the Monfort Hospital) is sufficient to allow increases in patient volume, the Ottawa Hospital should explore opportunities to decant some of its primary hospital care to these community hospitals. The focus of this effort should begin with obstetrics, which can be easily accommodated within the resources of a community hospital. In conjunction with the current planning for the QCH role, and the development of rural hospital networks in the Ottawa area, the MOHLTC, supported by the Champlain DHC, should facilitate transfer of non-tertiary activity from the Ottawa Hospital to area community hospitals.

It is recommended that:

(23) The Ministry of Health and Long-Term Care should establish a joint planning committee to develop strategies to support patriation of non-tertiary hospital care from the Ottawa Hospital to Ottawa area community hospitals.

4.4 Clinical Efficiency

4.4.1 Benchmarking Clinical Efficiency by Program

Benchmarking of clinical efficiency (use of ambulatory procedures and inpatient length of stay) is based on analysis of 1999/00 CIHI data for selected Ontario teaching hospitals. The analyses are based on the methodologies used for the Association of Canadian Academic Health Organizations (ACAHO) annual benchmarking database study. The Ottawa Hospital is a participant in the ACAHO study and receives benchmark performance data as a result. The ACAHO benchmarks have not yet been incorporated in the TOH utilization management processes or reports.

Targets have been used to assess the opportunity for TOH to reduce reliance on inpatient beds through:

- Shifting inpatient cases to ambulatory surgery and,
- Reducing inpatient length of stay (LOS)

Targets derived from Ontario teaching hospitals, and are specific to individual CMG, complexity, and age (CPA) categories. A hospital can only set a potential target for a CPA if the hospital has more than 30 cases in the CPA in the 1999/2000 fiscal year. Using this screen, clinical efficiency targets are set for only 24% of the CPAs, which account for 82% of typical and outlier cases and 67% of all typical and outlier days.

The average length of stay targets are established in conjunction with the assessment of opportunity to shift short stay (3 day stay or less) inpatient cases to ambulatory care, thereby taking into account the longer length of stay of the residual inpatient cases.

The clinical efficiency targets are based on 25th percentile performance (the performance level where 1/4 of hospitals [with sufficient volume] are more aggressive, and 3/4 less aggressive). As well, the impact of "best practice" (greatest use of ambulatory procedures and shortest length of stay, where minimum volume requirements are met) performance is shown.

The LOS targets are based on the total length of stay (including ALC days) for only Typical and Outlier cases combined. No assumptions are made regarding opportunities to reduce length of stay for acute care transfers, deaths, or sign-outs against medical advice. These excluded cases represent 11% of separations and 26% of inpatient days for the Ottawa Hospital.

To isolate those opportunities to reduce use of inpatient days that are least dependent on external changes and investments, the ALC days associated with the cases for which savings are estimated have been identified and subtracted from the savings estimate.

Exhibit 4.31
Results of Application of Ontario Teaching Hospital Benchmark Performance to Estimate Opportunities to Reduce Use of Inpatient Days in 1999/2000

Hospital	IP Cases	Total Days	Days to Save @ 25th%	ALC Days in 25th% Savings	Net Days to Save @ 25th%	% of Total Days to Save @ 25th%	Equiv. Beds (90% Occ.) to Save @ 25th%	% of Total Days to Save @ Best Practice
Ham St. Joe's	21,825	134,814	14,971	6,347	8,625	6.4%	26.3	8.4%
Hamilton HSC	39,176	312,592	25,440	9,322	16,117	5.2%	49.1	6.9%
London HSC	35,404	234,843	15,960	479	15,482	6.6%	47.1	8.5%
Mt. Sinai	18,615	115,677	9,238	938	8,301	7.2%	25.3	8.9%
Ottawa	**55,395**	**394,161**	**53,439**	**10,231**	**43,207**	**11.0%**	**131.5**	**13.2%**
St. Mike's	22,877	136,927	15,535	1,070	14,465	10.6%	44.0	12.5%
SWC HSC	31,580	217,916	24,967	3,329	21,638	9.9%	65.9	12.3%
UHN Toronto	39,300	284,990	18,379	478	17,901	6.3%	54.5	7.9%
Grand Total	264,172	1,831,920	177,930	32,194	145,736	8.0%	443.6	9.9%

At the 25th percentile performance level, the estimated opportunity to reduce use of inpatient days at the Ottawa Hospital in 1999/2000 was 53,439 days. However, this estimate includes 10,231 ALC days. Removing the ALC days leaves an opportunity of 43,207 days, 11.0% of the actual inpatient days used in 1999/2000 and approximately 132 beds/bassinets (at 90% occupancy). At "best practice" performance, the estimated opportunity to reduce inpatient days increases to 13.2%.

In 1999/2000, based on the calculated opportunity, the Ottawa Hospital had the greatest opportunity of all of the Ontario teaching hospitals to reduce reliance on inpatient acute care days.

Portion Attributable to Heart Institute

Based on the distribution by site of the estimated opportunities for the cardio-thoracic and cardiology PCCs, we estimate that 6,873 or 16% of the potentially conservable days (excluding ALC days) or 20.9 beds are associated with Heart Institute activity.

Alternative Approach Uses CIHI Expected Length of Stay

An alternative approach to assessing length of stay reduction opportunity is to use the CIHI expected length of stay for "Typical" cases to establish CPA-specific targets. The CIHI expected length of stay (ELOS) should not be used as an absolute target, but instead should be used to assess relative performance. Almost all Ontario hospitals, and most teaching hospitals, have "Typical" lengths of stay that are shorter than the CIHI ELOS. In all regions in Ontario (except Ottawa) average patient acute care stays are less than the CIHI ELOS.

The following table shows the results of comparing actual lengths of stay for Ontario teaching hospitals with CIHI ELOS.

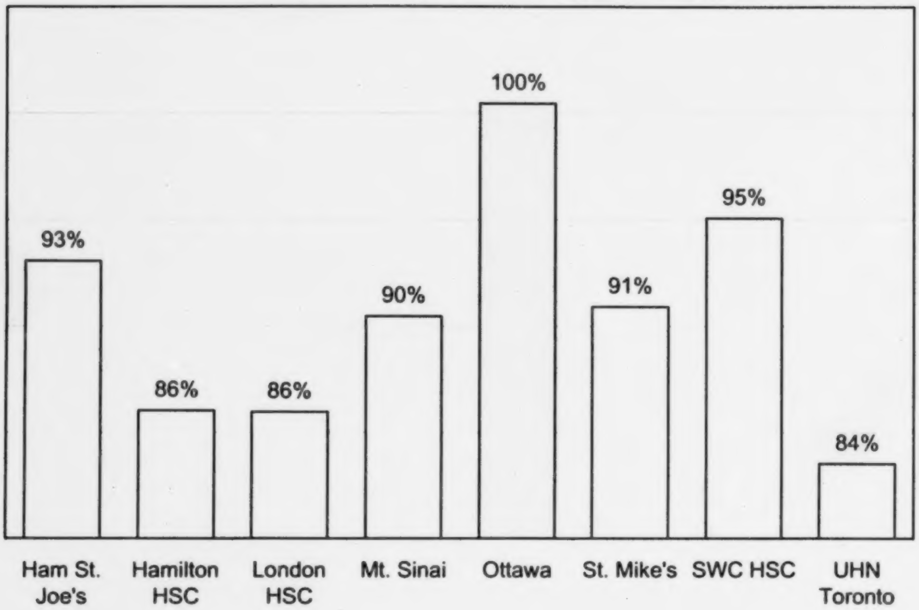
Exhibit 4.32

Impact of Achieving 25th Percentile Performance Relative to CIHI Expected LOS for "Typical" Cases

Hospital	Actual Typ Days as % of CIHI Expected		Change in Typ Days @ 25th% Tgt		Change in Bed Requirement (90% Occ.) @ 25th% Tgt	
	Including ALC	Excluding ALC	Including ALC	Excluding ALC	Including ALC	Excluding ALC
Ham St. Joe's	93.0%	89.8%	(6,797)	(5,406)	(21)	(16)
Hamilton HSC	86.0%	81.7%	(35)	5,253	(0)	16
London HSC	86.0%	84.8%	90	(1,061)	0	(3)
Mt. Sinai	90.5%	88.1%	(3,810)	(3,338)	(12)	(10)
Ottawa	**100.4%**	**96.8%**	**(36,930)**	**(32,202)**	**(112)**	**(98)**
St. Mike's	90.9%	88.7%	(4,389)	(4,047)	(13)	(12)
SWC HSC	95.1%	91.4%	(13,995)	(11,035)	(43)	(34)
UHN Toronto	83.5%	82.4%	5,910	4,269	18	13
Grand Total	90.6%	87.9%	(59,957)	(47,567)	(183)	(145)
25th Percentile Target	86.0%	84.2%				

In 1999/2000, the TOH actual typical days were approximately equal to the CIHI expected typical days. For all other Ontario teaching hospitals, the actual days were less than the expected days. The 25th percentile performance for the Ontario teaching hospitals was actual typical days equal to 86% of the CIHI expected days.

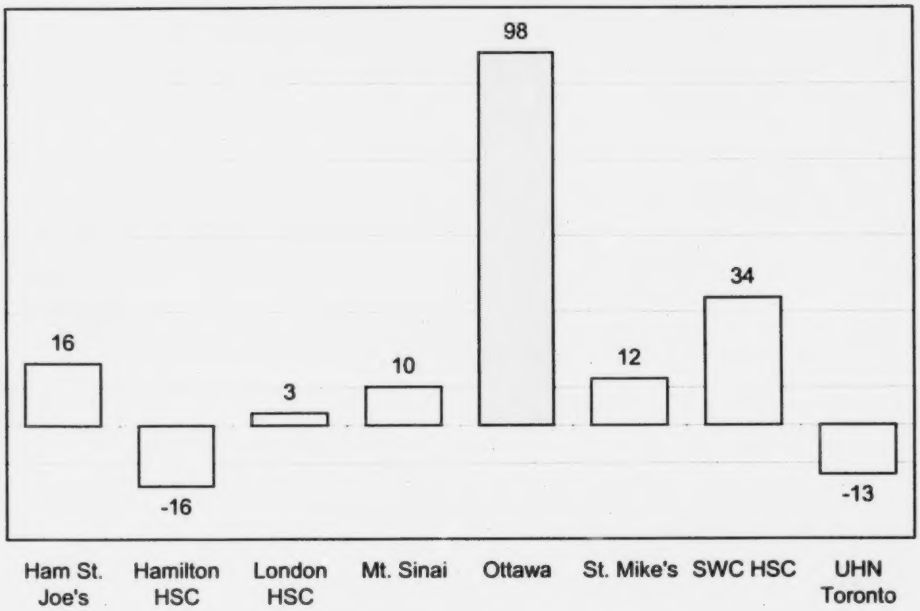
Exhibit 4.33
1999/2000 Actual "Typical" Case Inpatient Days as a Percent of CIHI Expected "Typical" Case Inpatient Days



If TOH were able to operate at an average length of stay for typical patients equal to 86% of the CIHI ELOS, then 112 fewer inpatient beds/bassinets would have been required for these patients in 1999/2000 (at 90% occupancy). These results do not include any potential impact of reduced length of stay for outlier cases.

While in 1999/2000 the CIHI ELOS was based on total stay for typical patients, including ALC days, we have also calculated the impact of removing typical case ALC days from the day savings estimates. For TOH, the estimate of potential reduction in inpatient beds is reduced to 98 beds/bassinets (exclusive of opportunities to reduce LOS for outlier cases).

Exhibit 4.34
Estimated Opportunity for Ontario Teaching Hospitals to Reduce Use of Inpatient Beds/Bassinets @ 25th Percentile Performance Relative to CIHI Expected LOS, After Removal of ALC Days



1st Quartile Impacts by Program

The following table shows the estimated opportunity to reduce use of inpatient beds/bassinets by MOHLTC Program Cluster Category (PCC) using the Ontario teaching hospital 25th percentile ambulatory procedure and length of stay targets. The table is sorted by descending bed/bassinet reduction potential.

Exhibit 4.35
Estimated Potential Reduction in IP Days at Target by MOH Program Cluster

PCC	PCC Name	Total IP Days	Total IP Cases	Days to Save @ 25th%	ALC Days in Saving Estimate	Net Days to Save After Removal of ALC	Resulting IP Days	Est. Beds to Save @ 90%
15	Cardio/ Thoracic	36,443	3,893	5,228	4	5,224	31,219	15.9
23	General Surgery	44,278	4,301	4,816	260	4,556	39,722	13.9
1	Orthopaedics	22,536	3,070	4,676	324	4,352	18,184	13.2
6	Trauma	28,882	2,285	6,205	2,246	3,959	24,923	12.1
10	Obstetrics	28,018	9,298	3,733	9	3,724	24,294	11.3
22	Gastro/Hepatobiliary	13,274	2,494	2,812	55	2,757	10,517	8.4
14	Cardiology	23,851	3,839	2,979	552	2,427	21,424	7.4
17	Oncology	29,106	2,410	2,278	29	2,249	26,857	6.8
7	Urology	10,328	1,999	2,403	244	2,159	8,169	6.6
11	Neonatology	28,521	7,815	2,229	112	2,117	26,404	Bassinets
20	Psychiatry	30,921	1,715	3,243	1,476	1,767	29,154	5.4
3	Neurosurgery	7,340	660	1,832	124	1,708	5,632	5.2
9	Gynaecology	6,676	1,918	1,422	-	1,422	5,254	4.3
16	Pulmonary	18,999	1,959	3,091	2,062	1,029	17,970	3.1
25	Vascular Surgery	10,033	775	1,069	107	962	9,071	2.9
2	Neurology	18,315	1,496	3,236	2,379	858	17,457	2.6
24	General Medicine	14,146	1,772	895	74	821	13,325	2.5
12	Otolaryngology	2,832	889	484	-	484	2,348	1.5
21	Ophthalmology	1,100	693	163	-	163	938	0.5
18	Haematology	1,879	383	115	-	115	1,764	0.4
19	Endocrinology	4,616	590	281	175	106	4,510	0.3
26	Plastic Surgery	2,097	103	103	-	103	1,994	0.3
8	Nephrology	3,784	438	81	-	81	3,703	0.2
4	Rheumatology	1,384	119	36	-	36	1,348	0.1
97	Not Gen. Hosp.	298	256	12	-	12	286	0.0
5	Dermatology	712	63	12	-	12	700	0.0
13	Dental/Oral Surgery	42	15	4	-	4	38	0.0
99	Ungroupable	143	7	-	-	-	143	-
27	Rehabilitation	3,607	140	-	-	-	3,607	-
Grand Total		394,161	55,395	53,439	10,231	43,207	350,954	125.1

Opportunity to Shift Inpatient Care to Ambulatory Procedure

While the estimates above are based on savings opportunities through both shifts to ambulatory care and reduction in length of stay, the ambulatory care savings opportunities are much less than the length of stay reduction opportunities. We have assumed that only 1, 2, or 3-day stay inpatient cases are candidates to move to ambulatory care, and that the shortest stay cases are the most likely to shift. The CMGs that generate the greatest opportunity to reduce inpatient days by increased use of ambulatory procedures are shown in the table below.

Exhibit 4.36
Ottawa Hospital CMGs with Greatest Opportunity to Reduce Inpatient Days via Shift to Ambulatory in 1999/2000

CMG	CMG Description	IP Days	Qualifying SDS	IP Cases	IP Cases to Shift @ 25th%	IP Days to Save @ 25th%	Initial % SDS	Target % SDS
294	ESOPH/GASTRO/MISC DIGEST DIS	4,109	4,378	887	327	529	83%	89%
579	MAJ UT/ADNEXAL PROC NO MALIG	3,671	946	1,169	373	501	45%	62%
536	URINARY OBSTRUCTION (MNRH)	876	1,261	321	199	292	80%	92%
617	ABORTIVE OUTCOME WITH D&C	393	1,554	334	277	277	82%	97%
851	OTH FACTORS CAUSE HOSPITALIZ	1,674	876	378	206	209	70%	86%
428	BRST PR X BX/LOC EXC NO MALIG	361	64	336	179	179	16%	61%
281	G.I. HEMORRHAGE	1,618	133	303	96	174	31%	53%
297	OTHER G.I. DIAGNOSES	1,406	1,565	283	110	169	85%	91%
365	BACK & NECK PROC NO FUSION	2,132	27	489	134	150	5%	31%
670	UPPER EXTREMITY PROC FOR TRX	1,001	32	224	83	126	13%	45%
138	RESPIRATORY NEOPLASMS	4,517	121	466	40	93	21%	27%
90	EXT & MIDDLE EAR PROC(MNRH)	95	39	94	84	84	29%	92%
129	OTHER RESPIRATORY PROCEDURES	459	51	112	71	83	31%	75%
317	LAPAROSCOPIC CHOLECYSTECTOMY	1,012	602	354	81	81	63%	71%
696	UPPER EXTREMITY FRACTURES	287	296	76	40	70	80%	90%
432	SUBTOT MASTECT/BRST PR MALIG	213	95	161	63	63	37%	62%
279	DIGESTIVE SYSTEM MALIGNANCY	2,606	210	256	29	61	45%	51%
127	MAJOR RESPIRATORY PROCEDURES	1,892	48	170	24	60	22%	33%
81	SALIVARY GLAND PROCEDURES	113	10	58	37	57	15%	70%
50	ORBITAL PROCEDURES	225	61	145	51	51	30%	54%
All Other CMGs		365,501	30,742	48,779	1,040	1,209	39%	40%
Grand Total		394,161	43,111	55,395	3,544	4,516	44%	47%

While the application of the 25th percentile teaching hospital ambulatory surgery targets generates an estimated total opportunity to save 4,516 inpatient days (14 beds at 90% occupancy), the impact of the length of stay targets is much greater. The following table shows the combined impact of the 25th percentile ambulatory procedure and length of stay targets on TOH 1999/2000 data by CMG.

Exhibit 4.37
CMGs with Greatest Opportunity to Reduce Inpatient Length of Stay

CMG	CMG Description	IP Days After Shift to SDS	IP Cases After Shift to SDS	Avg. LOS	Days to Save @ 25th% LOS	ALC Days to Remove from Savings	Net Days to Save	Net Days After Savings	Resulting Average LOS
251	GASTROSTOMY & COLOSTOMY PROC	7,893	278	28.39	1,897	125	1,772	6,121	22.02
179	COR BYPASS W PUMP NO CRD CATH	8,411	902	9.32	1,582	-	1,582	6,829	7.57
1	CRANIOTOMY PROCEDURES	4,677	339	13.80	1,467	119	1,348	3,329	9.82
662	FEMUR/MAJ JOINT REPL PR TRX	8,840	416	21.25	3,043	1,765	1,278	7,562	18.18
352	HIP REPLACEMENT	4,210	409	10.29	1,396	241	1,155	3,055	7.47
648	NEO,WT>2500G,NORMAL NEWBORN	10,544	5332	1.98	1,226	103	1,123	9,421	1.77
294	ESOPH/GASTRO/MISC DIGEST DIS	3,580	559.75	6.40	586	15	571	3,009	5.38
354	KNEE REPLACEMENT	3,648	440	8.29	1,106	33	1,073	2,575	5.85
579	MAJ UT/ADNEXAL PROC NO MALIG	3,170	795.72	3.98	500	-	500	2,670	3.36
188	PTCA WITH COMP CARD CONDITION	3,534	652	5.42	958	-	958	2,576	3.95
611	VAGINAL DELIVERY	8,037	3625	2.22	943	2	941	7,096	1.96
666	MAJ LOW EXTREMITY PROC TRX	3,207	386.37	8.30	1,073	210	863	2,344	6.07
253	MAJOR INTESTINAL/RECTAL PROC	7,446	579	12.86	970	80	890	6,556	11.32
177	CRD VLV REP W PUMP NO CATH	3,509	283	12.40	816	-	816	2,693	9.52
365	BACK & NECK PROC NO FUSION	1,982	354.73	5.59	557	7	550	1,433	4.04
222	HEART FAILURE	6,987	684	10.21	1,074	381	693	6,294	9.20
766	DEPRESS MOOD DIS NO ECT/AX3	4,195	227	18.48	692	-	692	3,503	15.43
700	BONE MARROW TRANSPLANT	2,962	79	37.49	659	-	659	2,303	29.15
602	CAESAREAN DEL W COMPLIC DX	4,214	696	6.05	649	3	646	3,568	5.13
	All Other CMGs	288,598	34,813	8.29	27,729	7,148	20,581	268,017	7.70
	Grand Total	389,645	51,851	7.51	48,923	10,231	38,691	350,954	6.77

An additional 38,691 inpatient days could be saved if TOH had been able to operate at 25th percentile length of stay performance in 1999/2000. This reduced LOS would have allowed either closure of 111 beds (excluding bassinets) or alternatively, a significant reduction in occupancy.

Comparative Occupancy

The following table shows the reported percent occupancy of staffed beds in 1999/2000 for the Ottawa Hospital and the comparator Ontario teaching hospitals. This information was provided by the MOHLTC, based on quarterly census reports.

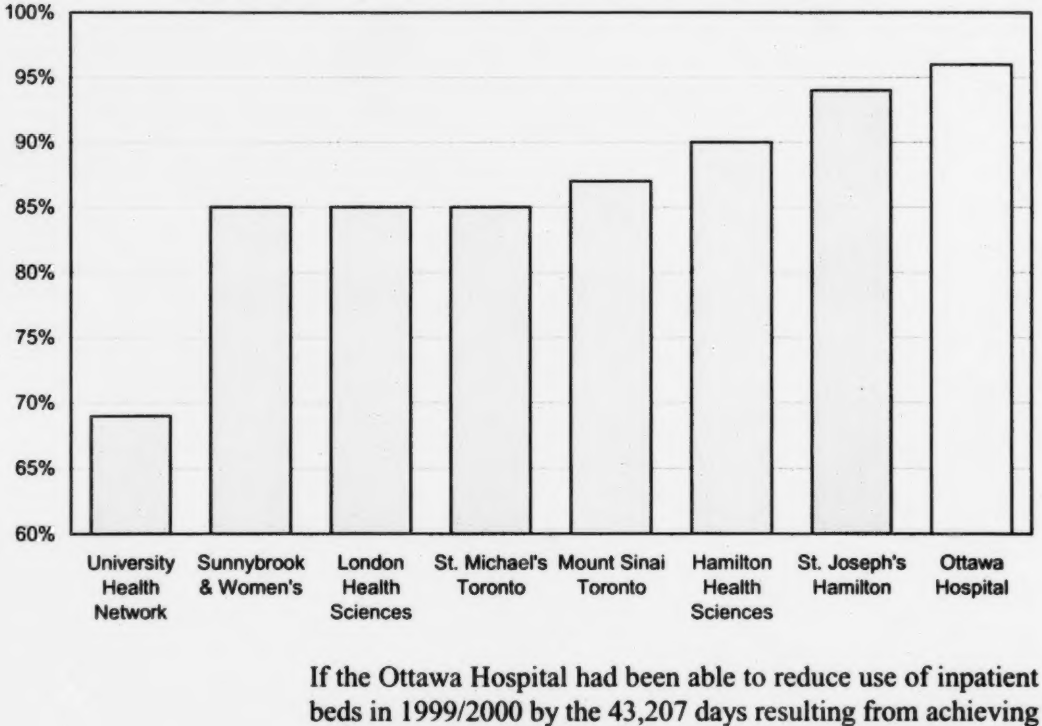
Exhibit 4.38
1999/2000 Percent Occupancy for Ontario Teaching Hospitals

Hospital	Medical/ Surgical	Obstetrics	Paediatrics	Psychiatry	ICU/ CCU	Total
University Health Network	67%	83%		63%	75%	69%
Sunnybrook & Women's	84%	91%		92%	75%	85%
London Health Sciences	95%	84%	73%	85%	40%	85%
St. Michael's Toronto	86%	83%			75%	85%
Mount Sinai Toronto	83%	85%		93%	106%	87%
Hamilton Health Sciences	95%	50%	86%	97%	74%	90%
St. Joseph's Hamilton	94%	71%	156%	99%	91%	94%
Ottawa Hospital	97%	90%		89%	95%	96%

Note: University Health Network occupancy includes Princess Margaret Hospital beds.

In 1999/2000 the Ottawa Hospital had the highest reported occupancy of medical/surgical beds, and the second highest reported occupancy of critical care beds. The overall occupancy for the Ottawa Hospital was 96%, well above the 90% occupancy target established by the HSRC.

Exhibit 4.39
1999/2000 Overall Occupancy for Ontario Teaching Hospitals



If the Ottawa Hospital had been able to reduce use of inpatient beds in 1999/2000 by the 43,207 days resulting from achieving 25th percentile clinical efficiency, the overall occupancy rate would have dropped from 96% to 86%. A further 8% of the occupancy is for patients whose inpatient days were recorded as Alternate Level of Care days.

ER Wait Time

In 1999/2000, the wait time in the ER for admitted patients was added as a required data element to be reported by Ontario hospitals on CIHI patient abstracts. On average, in 1999/2000, Ottawa Hospital patients waited 3.3 hours after admission in the ER to be moved to an inpatient unit. The teaching hospital average was a wait of 4.8 hours, ranging from a low of 1.3 hours for London HSC, to a high of 9.9 hours for Hamilton HSC.

Exhibit 4.40
Average Wait Time in ER for Admitted Patients

Hospital	Admissions via ER			Average Wait	
	Total	No. with Wait Time Recorded	Total Wait Time	Minutes	Hours
Ottawa Civic	9,674	9,647	1,714,028	178	3.0
Ottawa General	9,692	9,579	2,061,671	215	3.6
Ottawa Hospital	**19,366**	**19,226**	**3,775,699**	**196**	**3.3**
London HSC	12,249	12,234	951,207	78	1.3
Ham HSC	16,440	15,888	9,476,793	596	9.9
UHN Toronto	10,953	9,694	2,263,605	234	3.9
SWCHSC	10,182	10,170	2,155,714	212	3.5
Ham St. Joe's	7,089	6,829	3,393,300	497	8.3
Mt. Sinai	4,321	3,198	370,407	116	1.9
Total/Average	80,600	77,239	22,386,725	290	4.8

* St. Michael's Hospital data has been removed due to data reporting errors.

Time and Day of Discharge

To ensure availability of beds for admitted patients, the Ottawa Hospital has a policy of requiring discharge of inpatients by 10 a.m.. While more inpatients are discharged between 10 and 11 a.m. than during any other one hour period of the day, only 16% of inpatients are actually discharged before 10 a.m..

Exhibit 4.41
% of Inpatient Discharges by Time of Day

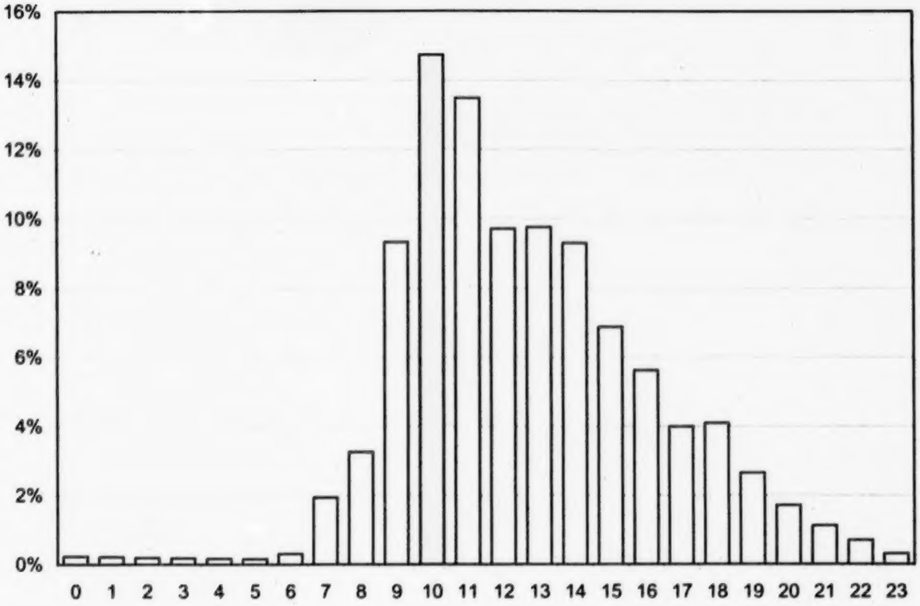


Exhibit 4.42
% of Ottawa Hospital Inpatients Discharged Before 10 a.m.

Program Cluster Category	IP Discharges	% Before 10 a.m.
General Surgery	4,301	32.3%
Urology	1,999	29.1%
Cardio/ Thoracic	3,893	23.7%
All Other PCCs	5,131	23.4%
Gynaecology	1,918	22.1%
Orthopaedics	3,070	19.8%
Trauma	2,285	16.9%
Gastro/ Hepatobiliary	2,494	16.1%
Oncology	2,410	16.0%
TOH Average	55,395	16.0%
Cardiology	3,839	15.1%
Psychiatry	1,715	14.1%
General Medicine	1,772	13.6%
Neurology	1,496	13.6%
Pulmonary	1,959	10.2%
Obstetrics	9,298	7.3%
Neonatology	7,815	4.9%

26% of surgery patients are discharged by 10 a.m., but only 14% of medical and psychiatric inpatients meet this guideline. If, as the Ottawa Hospital has suggested, discharge later in the day is evidence of a more aggressive discharge policy (since patients don't have to wait until the next morning), the hospital's discharge policies should be updated to reflect this.

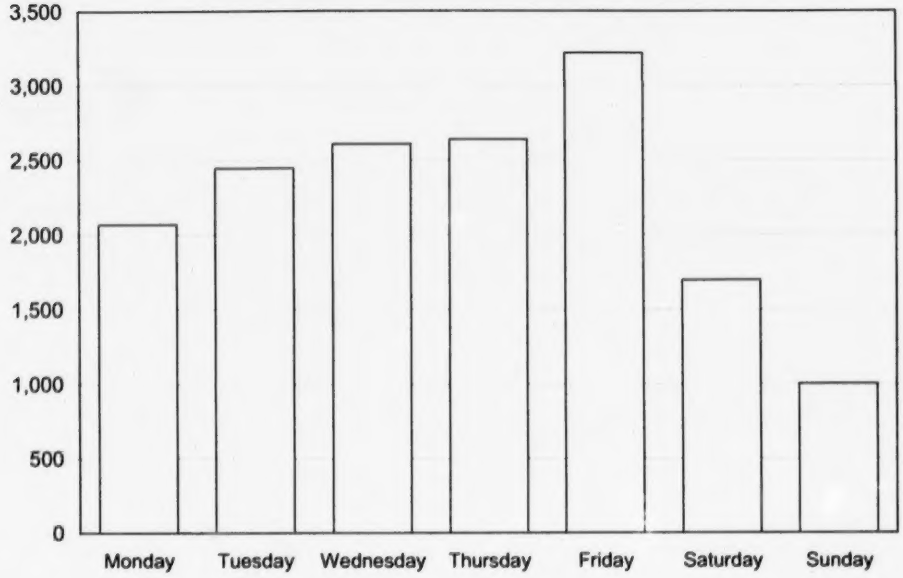
If discharges were equally distributed across all days of the week, 29% of patients would be discharged on the weekend. At the Ottawa Hospital discharges of maternal and newborn patients are as likely to occur on weekends as during the week, but only 7% of psychiatry patients and 17% of medicine patients are discharged on the weekend.

Exhibit 4.43
Percent of Inpatients Discharged on the Weekend and Percent Discharged Before 10 a.m.

Program	% of Inpatients Discharged:	
	On Weekend	Before 10 a.m.
Medicine	17%	14%
Newborn	28%	5%
Obstetrics	27%	7%
Psychiatry	7%	14%
Surgery	21%	26%
Total	22%	16%

Medical inpatients are much more likely to be discharged on Friday than on the weekend. This likely reflects a combination of the availability of the staff required to facilitate discharge and discharge planning on the weekend, and the capacity of external providers to accept weekend transfers. However, discharge on the weekend can be less disruptive to patient's families, since they will be more available to assist with patient transport and support at home.

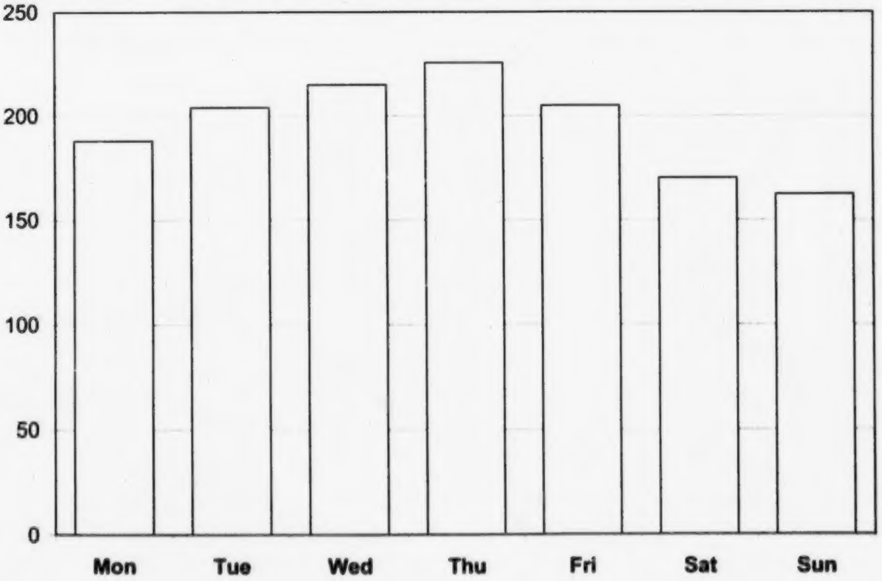
Exhibit 4.44
Medical Inpatient Discharges by Day of Week



If patients are medically ready for discharge on the weekend, but they cannot be discharged until the following week, lengths of stay will be extended.

Patients admitted via the ER wait an hour longer to be moved to an inpatient unit if admitted on Thursday than if admitted on Sunday.

Exhibit 4.45
Average Wait Time in ER for Admitted Patients by Day of Week of Admission



Alternate Level of Care Analyses

The percent of inpatient days recorded as Alternate Level of Care (ALC) in the Ottawa Hospital is above the Ontario teaching hospital peer average, but decreased from 9.3% of all days in 1998/99 to 7.9% of all days in 1999/00.

The ALC days recorded on the CIHI data (used for these analyses) is lower than the days assigned an ALC designation by Discharge Planning. The Hospital has recently completed a review of the relative comprehensiveness and accuracy of the Health Records and Discharge Planning days and has concluded that the (higher) Discharge Planning ALC day numbers are more accurate than the Health Records ALC days reported on the CIHI abstracts. It has been our experience that Health Records professionals, following the ALC designation guidelines developed by CIHI, are the most accurate source of ALC data. While this may not be the case at the Ottawa Hospital, we have used the ALC days reported on the CIHI abstracts for the following analyses.

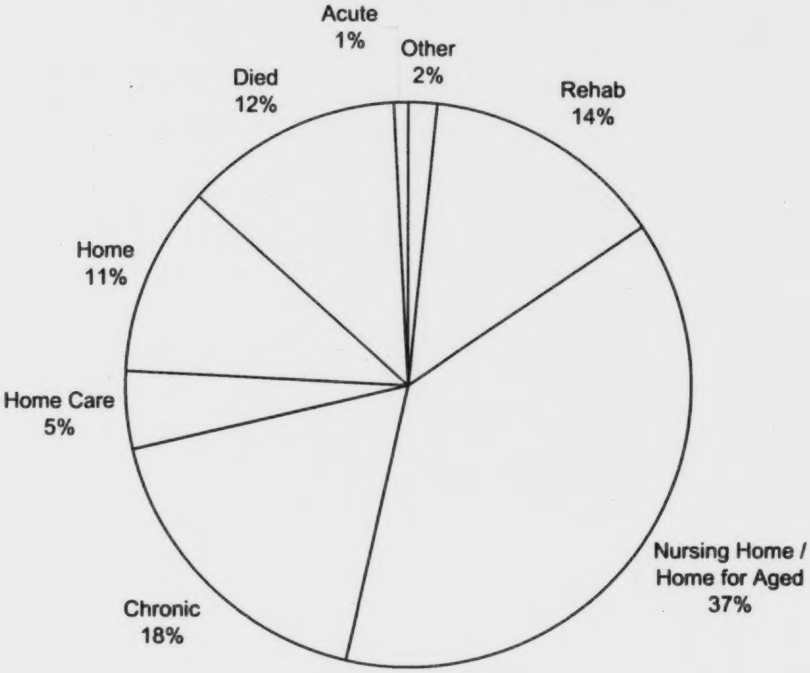
The Ottawa Hospital has projected (based on September 30, 2000 year-to-date data) an increase in ALC days from 30,738 to 42,000 for the 2000/2001 fiscal year, or 10.5% of all days.

Exhibit 4.46
Percent Inpatient Days Recorded as ALC in 1999/2000 for Ontario Teaching Hospitals

Ontario Teaching Hospital	% Of Inpatient Days Recorded as ALC		ALC Percentage Point Change
	1998/99	1999/00	
TOH-Civic	9.5%	8.7%	-0.8%
TOH-Gen'l, River.	9.2%	7.0%	-2.2%
TOH Total	**9.3%**	**7.9%**	**-1.4%**
London HSC	1.4%	2.0%	0.6%
Hamilton HSC	14.3%	15.4%	1.1%
UHN, Toronto	2.6%	1.5%	-1.1%
St. Mikes	6.0%	4.8%	-1.2%
SWCHSC	8.2%	7.6%	-0.6%
Hamilton St. Joes	11.1%	12.1%	1.0%
Mount Sinai	4.7%	5.0%	0.2%
Total	7.5%	7.2%	-0.3%

The following chart shows the distribution of ALC days according to the actual discharge disposition of the patients for whom the ALC days were recorded.

Exhibit 4.47
1999/00 TOH ALC Days by Discharge Disposition



In 1999/2000, 60% of the TOH ALC days were recorded for patients subsequently discharged to continuing care (nursing home, home for the aged, chronic, home care).

Exhibit 4.48
% Of Total ALC Days Associated with Patients Discharged to Continuing Care (LTC, Home Care, Chronic)

Ontario Teaching Hospital	% Of ALC Days for Discharge to Continuing Care		Percentage Point Change
	1998/99	1999/00	
TOH-Civic	75.7%	67.4%	-8.3%
TOH-Gen'l, River.	45.9%	50.8%	4.8%
TOH Total	**60.2%**	**60.2%**	**0.0%**
London HSC	52.8%	57.3%	4.5%
Hamilton HSC	63.0%	63.7%	0.6%
UHN, Toronto	51.8%	38.5%	-13.3%
St. Mikes	30.1%	21.2%	-8.9%
SWCHSC	58.8%	49.9%	-8.8%
Hamilton St. Joes	53.8%	80.8%	27.0%
Mount Sinai	61.2%	56.9%	-4.3%
Total	57.9%	61.2%	3.2%

The above results shows that for all teaching hospitals outside Toronto most ALC days are recorded for patients subsequently discharged to the long-term care system. This suggests that significant reduction in ALC days will be contingent on availability of the planned expanded long-term care bed capacity in Ontario. Before the end of 2002 there will be 466 new long-term care beds added in Ottawa-Carleton. The availability of these beds should reduce the volume of ALC days associated with discharges to long-term care.

The following table shows the average delay (in days) per case for patients discharged to each discharge disposition.

Exhibit 4.49
Average ALC Days per Case by Eventual Discharge Disposition

1999/00	Other	Rehab	NH / HFA	Chronic	Home Care	Home	Died	Acute	Total
TOH-Cvc	4.7	9.9	12.8	15.8	0.3	0.1	3.2	0.2	0.6
TOH-G,R	4.0	9.8	8.2	8.8	0.3	0.1	1.0	0.3	0.5
TOH Total	**4.4**	**9.8**	**10.8**	**12.2**	**0.3**	**0.1**	**2.0**	**0.2**	**0.5**
London HSC	0.7	1.9	2.0	2.6	0.1	0.0	0.3	0.2	0.1
Ham HSC	7.3	7.3	18.4	26.3	0.9	0.1	4.3	1.1	1.1
UHN, Toronto	0.7	1.6	0.5	2.9	0.1	0.0	0.1	0.7	0.1
St. Mikes	7.1	2.4	3.1	3.3	0.3	0.1	0.7	1.7	0.3
SWCHSC	2.7	2.4	2.3	7.5	0.4	0.0	2.7	0.4	0.5
Ham St. Joes	2.0	1.4	24.3	10.9	0.4	0.0	3.6	0.0	0.7
Mt. Sinai	7.3	2.8	3.6	11.1	0.1	0.0	1.3	0.1	0.3
99/00 Total	3.1	3.9	8.5	9.9	0.3	0.1	1.9	0.6	0.5

In all teaching hospitals, patients discharged home with no home care, have virtually no discharge delay. For Ottawa Hospital patients, there is at least a 10-day wait for transfer to inpatient rehab, nursing home or home for aged, or chronic bed. The 10-day wait for TOH patients transferred to inpatient rehabilitation is longer than for any other teaching hospital.

The following table shows the ALC days reported by the Ottawa Hospital by Program Cluster Category in fiscal year 1999/2000.

Exhibit 4.50
1999/2000 Ottawa Hospital Reported ALC Days by Program Cluster Category

PCC	PCC Name	IP Days	ALC Days	% ALC
2	Neurology	18,315	5,074	27.7%
6	Trauma	28,882	4,794	16.6%
20	Psychiatry	30,921	3,840	12.4%
16	Pulmonary	18,999	3,642	19.2%
23	General Surgery	44,278	2,871	6.5%
24	General Medicine	14,146	1,620	11.5%
17	Oncology	29,106	1,601	5.5%
1	Orthopaedics	22,536	1,581	7.0%
14	Cardiology	23,851	1,062	4.5%
8	Nephrology	3,784	564	14.9%
15	Cardio/ Thoracic	36,443	531	1.5%
27	Rehabilitation	3,607	516	14.3%
25	Vascular Surgery	10,033	512	5.1%
19	Endocrinology	4,616	508	11.0%
7	Urology	10,328	507	4.9%
3	Neurosurgery	7,340	501	6.8%
22	Gastro/Hepatobiliary	13,274	293	2.2%
26	Plastic Surgery	2,097	233	11.1%
5	Dermatology	712	153	21.5%
4	Rheumatology	1,384	151	10.9%
11	Neonatology	28,521	117	0.4%
18	Haematology	1,879	37	2.0%
21	Ophthalmology	1,100	19	1.7%
10	Obstetrics	28,018	9	0.0%
9	Gynaecology	6,676	2	0.0%
99	Ungroupable	143	-	0.0%
13	Dental/Oral Surgery	42	-	0.0%
12	Otolaryngology	2,832	-	0.0%
97	Not Gen. Hosp.	298	-	0.0%
Grand Total		394,161	30,738	7.8%

More than half (56%) of all reported ALC days are for patients in the Neurology, Trauma, Psychiatry, and Pulmonary program cluster categories. 81% of Ottawa Hospital ALC days are for patients 70 years of age and older.

The following table shows the ALC days reported by the Ottawa Hospital by Case Mix Group in fiscal year 1999/2000.

Exhibit 4.51
1999/2000 Ottawa Hospital Reported ALC Days by Case Mix Group

CMG	CMG Description	IP Days	ALC Days	% ALC
13	SPEC CEREBROVASC DISORD(XTIA)	10,883	3,453	31.7%
662	FEMUR/MAJ JOINT REPL PR TRX	8,840	2,186	24.7%
142	CHRONIC BRONCHITIS	5,705	1,845	32.3%
788	ORG MENT DIS W PHY DIS W AX3	2,971	1,358	45.7%
772	DEMENTIA W OR W/O DEL W AXIS3	2,193	1,296	59.1%
143	SIMPLE PNEUMONIA & PLEURISY	5,989	1,091	18.2%
851	OTH FACTORS CAUSE HOSPITALIZ	1,674	1,053	62.9%
40	TRACHEOSTOMY & GASTROSTOMY	6,618	1,014	15.3%
11	DEGENERATIVE NERVOUS DISORDER	1,782	800	44.9%
222	HEART FAILURE	6,987	564	8.1%
841	REHABILITATION	3,607	516	14.3%
10	NEOPLASM OF NERVOUS SYSTEM	2,738	427	15.6%
840	OTHER ADMISSIONS WITH SURGERY	3,348	410	12.2%
666	MAJ LOW EXTREMITY PROC TRX	3,240	376	11.6%
253	MAJOR INTESTINAL/RECTAL PROC	7,446	355	4.8%
485	NUTRIT/MISC METABOLIC DISORD	1,748	351	20.1%
351	JOINT REPLACEMENT FOR TRAUMA	992	347	35.0%
251	GASTROSTOMY & COLOSTOMY PROC	7,893	333	4.2%
323	CIRRHOSIS & ALCOHOLIC HEPATIT	1,056	321	30.4%
356	REPAIR HIP AND FEMUR PROC	1,141	320	28.0%
All Other CMGs		307,310	12,322	4.0%
Grand Total		394,161	30,738	7.8%

The analysis of potentially conservable inpatient days has excluded consideration of any opportunities to reduce ALC days. However, given the planned significant new investment in long-term care beds in Ottawa-Carleton in 2001 and 2002, and the revised relationship of the Ottawa Hospital with the Rehabilitation Centre, reduction of ALC days can be a key component of the Hospital's future recovery plan.

Special Care Unit Utilization

The following table shows the number of days recorded as "special care unit" (SCU) days for the Ottawa Hospital in 1999/2000 compared with other Ontario teaching hospitals

Exhibit 4.52
Special Care Unit Data for Ottawa Hospital and Other Ontario Teaching Hospitals

HSRC "Super" Program	Ottawa Hospital				Other Ontario Teaching Hospitals			
	IP Cases	Cases w/ SCU	All Days	Days in SCU	IP Cases	Cases w/ SCU	All Days	Days in SCU
Medicine	15,671	2,539	131,012	8,828	65,682	9,784	507,089	41,237
Newborn	7,815	956	28,521	11,345	23,245	3,813	98,844	48,562
Obstetrics	9,298	20	28,018	30	25,925	85	77,771	212
Other	158	8	3,789	33	206	25	852	150
Psychiatry	1,709	48	30,690	130	5,819	186	107,322	750
Surgery	20,744	2,752	172,131	12,917	87,900	20,393	645,880	91,026
Grand Total	55,395	6,323	394,161	33,283	208,777	34,286	1,437,758	181,937

Fewer TOH patients access SCU (11.4% of all inpatients, compared to 16.4% of all inpatients in other teaching hospitals), but once admitted to an SCU, the TOH LOS is similar (5.26 days at TOH, 5.31 days at other teaching hospitals).

Exhibit 4.53
Comparison of SCU Use, Ottawa vs. Other Ontario Teaching Hospitals

HSRC "Super" Program	Ottawa Hospital				Other Ontario Teaching Hospitals			
	% Cases w/ SCU	% Total Days Spent in SCU	Avg. SCU Days (all Cases)	Avg. SCU LOS (SCU Cases)	% Cases w/ SCU	% Total Days Spent in SCU	Avg. SCU Days (all Cases)	Avg. SCU LOS (SCU Cases)
Medicine	16.2%	6.7%	0.56	3.48	14.9%	8.1%	0.63	4.21
Newborn	12.2%	39.8%	1.45	11.87	16.4%	49.1%	2.09	12.74
Obstetrics	0.2%	0.1%	0.00	1.50	0.3%	0.3%	0.01	2.49
Other	5.1%	0.9%	0.21	4.13	12.1%	17.6%	0.73	6.00
Psychiatry	2.8%	0.4%	0.08	2.71	3.2%	0.7%	0.13	4.03
Surgery	13.3%	7.5%	0.62	4.69	23.2%	14.1%	1.04	4.46
Grand Total	11.4%	8.4%	0.60	5.26	16.4%	12.7%	0.87	5.31

The differences between TOH use of SCU and other teaching hospitals are greatest for surgery patients. Only 13.3% of Ottawa Hospital surgery patients spend any time in an SCU, while 23.2% of surgery patients access an SCU in other teaching hospitals. As a result, only 7.5% of a TOH surgical patient's stay is spent in an SCU, compared to 14.1% in other teaching hospitals.

Exhibit 4.54
SCU Use by MOH Program Category Cluster

PCC	TOH SCU Days (for Sort)	Ottawa Hospital				Other Ontario Teaching Hospitals			
		% Cases w/ SCU	% Total Days Spent in	Avg. SCU Days (all Cases)	Avg. SCU LOS (SCU Cases)	% Cases w/ SCU	% Total Days Spent in	Avg. SCU Days (all Cases)	Avg. SCU LOS (SCU Cases)
Neonatology	11,345	12.2%	39.8%	1.45	11.87	16.4%	49.1%	2.09	12.74
General Surgery	3,870	12.7%	8.7%	0.90	7.09	14.8%	12.7%	1.29	8.71
Cardio/ Thoracic	3,455	17.4%	9.5%	0.89	5.11	64.0%	27.6%	2.27	3.55
Cardiology	3,237	29.6%	13.6%	0.84	2.85	29.4%	18.5%	1.02	3.46
Trauma	1,813	16.2%	6.3%	0.79	4.90	20.5%	12.5%	1.20	5.85
Pulmonary	1,570	16.3%	8.3%	0.80	4.92	14.9%	11.7%	0.92	6.22
Neurosurgery	1,371	50.8%	18.7%	2.08	4.09	52.0%	19.9%	1.70	3.27
Vascular Surgery	1,355	48.8%	13.5%	1.75	3.58	25.7%	8.6%	0.88	3.43
General Medicine	1,282	12.4%	9.1%	0.72	5.85	13.0%	10.2%	0.93	7.16
Neurology	1,122	25.1%	6.1%	0.75	2.99	15.6%	5.1%	0.53	3.40
Oncology	685	7.1%	2.4%	0.28	3.98	4.2%	1.8%	0.19	4.50
Gastro/Hepatobiliary	459	6.8%	3.5%	0.18	2.72	4.7%	3.2%	0.17	3.67
Orthopaedics	434	5.4%	1.9%	0.14	2.63	6.6%	3.0%	0.17	2.59
Plastic Surgery	215	21.4%	10.3%	2.09	9.77	37.7%	48.3%	4.69	12.42
Other PCCs	1,070	2.6%	1.1%	0.06	2.20	2.7%	1.7%	0.09	3.43
Grand Total	33,283	11.4%	8.4%	0.60	5.26	16.4%	12.7%	0.87	5.31

A lower percentage of Ottawa Hospital patients spend any time in an SCU for:

- Cardio Thoracic (17% vs. 28% for peers),
- Trauma,
- General Surgery

A greater percentage of Ottawa Hospital patients access an SCU for:

- Vascular Surgery,
- Neurology

The Ottawa Hospital length of stay in SCU is lower for:

- General Surgery,
- Cardiology,
- Trauma,
- Pulmonary,
- General Medicine

TOH length of stay in SCU longer for:

- Cardio Thoracic,
- Neurosurgery

4.5 Utilization Management Processes

CQRM Committee

Primary responsibility for coordinating utilization and quality management at the Ottawa Hospital is assigned to the corporate Clinical Quality Resource Management (CQRM) Committee. This committee was established in March 1999 and its role was expanded to include clinical quality processes in January 2000. The structure, membership, and key initiatives of the CQRM committee are clearly described in the September 27, 2000 Clinical Efficiency Report prepared by the Hospital in support of the clinical review, and will not be repeated here.

CQRM Reporting

The Quality Monitoring Task Force, Case Costing Task Force, and Clinical Pathways Task Force report to the CQRM Committee. The CQRM Committee reports to the Corporate Performance Committee. The membership of the CQRM is appropriate, although more consistent physician participation and attendance at meetings would support broader physician compliance with CRM initiatives. The CQRM Committee produces a comprehensive and well presented quarterly report that summarizes CRM activities, provides efficiency and quality indicators and the bed utilization report, and highlights issues identified by review of the performance indicator results. CQRM Committee reports are also distributed to the Quality Committee of the Board.

The focus of the CQRM Committee has been on establishing relationships (between sites and disciplines) and identifying data sources, measurement methodologies, and reports to support utilization management (and to evaluate impact of program moves). Cultural differences, and differences in historical approaches to utilization management in the predecessor organizations, has caused the committee to move slowly, to ensure physician comfort with data, methodologies, and principles.

Very little physician-specific information is made available to front line physicians (an exception is the physician-specific reporting of May Not Require Hospitalization data). The Ottawa General Hospital had a history of providing physician-specific LOS information, while this was not done at the Ottawa Civic Hospital. The CQRM committee plans to introduce more physician-specific LOS reporting, but has delayed this until acceptable LOS benchmark data is available to incorporate in the reports.

Major CQRM Successes

The major successes of the CQRM committee include:

- Establishment of a CRM infrastructure for the Ottawa Hospital, with a cohesive and dedicated supporting team
- Increased physician knowledge of, and comfort with, data, methodologies, and clinical resource management principles
- Improved, and more consistent, reporting of standardized utilization and quality data across the organization
- Introduction of an expected date of discharge (EDD) program, supported by concurrent review
- Introduction of a necessity of admission (NOA) form
- Improved tracking of alternate level of care (ALC) days

Impediments to Improved CRM

Impediments to improving clinical efficiency and clinical resource management include:

- Lack of integration of clinical information systems across sites, and lack of an integrated electronic health record based on a single organization-wide patient identifier
- Need for further integration of the different cultures and approaches to clinical resource management inherited from the predecessor organizations
- Loose assignment of accountability and unclear responsibility for acting on clinical resource management issues. The recent re-assignment of program responsibility to the Vice-Presidents is expected to clarify accountabilities
- Lack of long-term care capacity in the Ottawa area, causing inappropriately high ALC rates and limiting effective Ottawa Hospital bed capacity
- Absence of broad physician acceptance of, involvement in, and support for, clinical resource management. This is also impacted by concerns regarding adequacy of compensation for physicians for administrative activity

The Hospital has relied extensively on the CIHI "expected length of stay" (ELOS) as a measure of length of stay performance. As shown earlier, the Ottawa region is the only region in all of Ontario where the average length of stay of inpatients in acute care exceeds the CIHI national expected length of stay. The Ottawa Hospital is the only Ontario teaching hospital whose length of stay is not significantly lower than the CIHI ELOS.

We know of no other teaching hospitals that continue to rely on the CIHI ELOS as their target for length of stay performance. As operating cost pressures have increased in recent years, most hospitals have established increasingly demanding targets for length of stay performance, recognizing that failure to do so will cause increased occupancy and increased cost.

Use of the CIHI ELOS as a target in length of stay reports and for the EDD system has been a barrier to internal identification of opportunities to improve clinical efficiency. The focus at the Ottawa Hospital has been on the high number of ALC days, which leads to an emphasis on changes that must occur outside the Ottawa Hospital and may be beyond the control of the hospital. This focus, coupled with the repeated internal and external emphasis on the inadequacy of MOHLTC funding for the Ottawa Hospital, has diverted the Hospital from more aggressively seeking clinical efficiencies. More aggressive emphasis on length of stay reduction could have substantially reduced the Hospital occupancy level (and its costs).

The infrastructure, data, and reporting systems that have been put in place to support clinical resource management at the Ottawa Hospital are impressive. However, given the financial situation of the Hospital, more aggressive performance targets must be used. During the early stages of the creation of the merged organization a less aggressive approach to clinical resource management may have been justified. The Hospital is now well-positioned to use more challenging clinical efficiency targets, derived from other teaching hospitals, in the reporting infrastructure now in place.

4.5.1 Opportunities to Improve Clinical Efficiency

Previous analyses have demonstrated that the primary opportunity to improve clinical efficiency at the Ottawa Hospital is to reduce length of stay to levels achieved by high performing Ontario teaching hospitals. The Hospital, through its participation in the Association of Canadian Academic Health Organizations (ACAHO) receives benchmark performance data for peer hospitals across Canada. Performance targets based on this benchmark data should be incorporated in the CRM processes.

It is recommended that:

(24) The Ottawa Hospital Clinical Quality Resource Management Committee should incorporate Canadian teaching hospital length of stay benchmarks in length of stay performance reports and expected date of discharge targets.

Physician-specific utilization reports should be routinely distributed. The Hospital needs to emphasize that mediocre length of stay performance is a major factor that contributes to the very high occupancy rates and the increasingly poor financial position of the hospital. While there are clearly external barriers to achieving improved clinical efficiency, there are also clearly internal opportunities.

It is recommended that:

(25) The Ottawa Hospital Clinical Quality Resource Management Committee should ensure that physician-specific utilization reports are routinely distributed to all active Ottawa Hospital physicians.

4.6 *Utilization, Clinical Efficiency and Hospital Operating Costs*

If the first quartile clinical efficiency targets had been achieved at the Ottawa Hospital in 1999/2000, the total number of inpatients would have been reduced by 6.4%, and the total inpatient days reduced by 11.0%. This would require an 8.2% increase in ambulatory surgery volume. If all beds had remained open, then achieving the clinical efficiency targets would have reduced the overall hospital occupancy from 96% to 86%.

These estimates are based on aggressive targets for reduction in use of inpatient days for Typical and Outlier cases, but do not assume any reduction in inpatient days for Transfers, Sign-outs, or Deaths. They also assume no reduction in ALC days from the volumes reported by the Ottawa Hospital in 1999/2000.

Achieving the target performance level would reduce overall workload for those departments whose workload is most dependent on inpatient volumes and inpatient days.

The greatest benefit of reducing inpatient days would be the reduction in overall occupancy and the reduction of the inefficiencies and frustrations caused by off-service placement, patient transfers, and the "domino effect" (on departments such as the ER and diagnostics) of the inability to quickly move patients to an appropriate bed. The hospital might also be able to restore its room differential revenues to the levels of prior year.

4.6.1 Operating Cost Savings Opportunities

The following table shows the estimated impact on weighted cases (RIW) of achieving the first quartile clinical efficiency performance targets.

Exhibit 4.55
Estimated Impact of Achievement of 25th % Clinical Efficiency Targets

Activity Indicator	Actual	@ 25th% Performance	% Change
Total Inpatient Cases	55,395	51,851	-6.4%
Total Inpatient Days	394,161	350,954	-11.0%
Total Inpatient RIW	88,564	81,239	-8.3%
Qualifying SDS Cases	43,111	46,655	8.2%
Qualifying SDS RIW	9,135	10,008	9.5%
Total Cases (IP & SDS)	98,506	98,506	0.0%
Total RIW Weighted Cases	97,699	91,247	-6.6%

While we have estimated that the total number of inpatient days could have been reduced by 11.0%, this would not equate to an 11.0% reduction in operating costs. This is because:

- Surgical cases shifted to ambulatory care from inpatient care do not generate significant dollar savings. The candidates for shifting to ambulatory care are short stay inpatient cases and the costs of the surgical procedure remains.
- Targeted reduction in length of stay will eliminate the least intensive days of care at the end of a patient stay. The cost of providing inpatient care for these days will be less than the average cost of an inpatient day.

4.6.2 Estimation of Cost Impact of Clinical Efficiencies

We have used two methods to estimate the potential impact on operating costs of achieving the clinical efficiency targets.

Estimating Savings from Clinical Efficiencies Using RIWs

In the first method we have calculated the impact on Resource Intensity Weights (RIWs, as developed by CIHI, as a measure of case cost) as follows:

- For cases shifted to ambulatory care, inpatient RIWs have been removed at the average "typical" inpatient weight, and SDS RIWs have been added at the average Day Procedure Group (DPG) weight for the procedures.
- For length of stay reductions, inpatient RIWs have been removed at the CIHI routine/ancillary (R/A) weight per day (which is less than the average per diem weight).
- If the CMG has ALC days, then weight is removed at the CIHI "low severity" per diem weight, rather than the R/A weight.

The impact of this approach on Ottawa Hospital is an estimated reduction of 6,452 RIW-weighted cases, or 6.6% of the actual 1999/2000 RIW-weighted cases. Based on the 1999/2000 Ottawa Hospital direct acute inpatient and SDS cost of $283,754,166 and a calculated average direct cost per RIW of $2,904, the reduction in RIW-weighted cases is equivalent to a reduction in direct operating cost of $18.7 million. This is equivalent to average savings of $433 per inpatient day saved.

The estimation of savings opportunities due to clinical efficiencies based on RIW changes provides an order of magnitude estimate and does not show the relative impacts on individual departments. There will also be a reduction in revenues as patient days decrease due to achieving the clinical efficiency targets.

Estimating Cost Impact of Clinical Efficiencies Based on Changes in Functional Centre Workload)

An alternative approach is to apply the projected departmental workload impacts of achieving clinical efficiency targets to the actual productivity of each department, and calculating the resulting impact on FTEs, labour costs, non-labour costs, and revenues. For purposes of modeling the potential impact of achieving the target clinical efficiencies on individual departments, the following assumptions have been made:

- There will be a reduction in workload for selected indirect functional centres. The percentage reduction of workload for indirect functional centres is based on the expected overall reduction in inpatient/SDS weighted cases (6.60%) and the 1998/99 percentage of TOH costs (70%) that were allocated to inpatients/SDS patients

- In considering the reduction in workload for inpatient nursing, patient days will change on inpatient nursing units corresponding to the change in inpatient days from achieving the targeted levels of clinical efficiency. We estimate that clinical efficiencies can provide a reduction of 41,090 adult patient days and 2,117 neonatal patient days.
- In translating the reduction in patient days to a reduction in nursing workload in these areas, only 75% of the estimated patient day savings are used to account for the reduction in workload. This adjustment is based on an assumption that the days that will be eliminated require fewer nursing resources per day than the days that will remain. The hours saved are based on the productivity measure of hours per patient day. Conversely, one can expect an increase in the average intensity in nursing workload of the remaining inpatient days. To account for this effect, 25% of the day reduction from clinical efficiencies are retained in the measure of nursing workload (patient days) in each program area.
- No changes have been assumed in outpatient clinics, operating room, etc. There is a small increase in day surgery / medical day care because of the transfer of cases from inpatient to ambulatory procedures.
- The change in the inpatient workload of therapeutic areas is based on the overall reduction in inpatient/SDS weighted cases; for Respiratory Therapy and Pharmacy, this was discounted by 25% (similar to inpatient nursing) to account for critical care work

Exhibit 4.56 shows the results of these calculations.

Exhibit 4.56
Clinical Efficiency (CE) Impacts at 1999/2000 Performance

Functional Centre	CE Workload Impact	Rationale/Comment	FTEs	Labour Costs	Variable Non-Labour Costs	Revenues
711350000 Materiel Management & Pt. Transport	-4.62%	70% indirect costs = IP/SDS	-14.03	-$582,041	-$101,510	
711450000 Housekeeping	-4.62%	70% indirect costs = IP/SDS	-13.96	-$473,146	-$56,696	
711500000 Laundry and Linen	-243,127	Workload per CE - 7.65%	-0.90	-$37,724	-$367,517	
711800000 Registration (Admitting)	0	Inpat/Outpat wrkld offset				
711900000 Health Records	-886	3544 cases converted SDC	-0.70	-$29,853	-$1,877	
711950000 Patient + Non-Patient Food Svces	-41,091	Reduction non-NB pt days	-13.53	-$548,761	-$344,631	
712051000 Nursing Administration	-8.27%	IP weighted cases	-7.76	-$513,148	-$46,871	
712100000 Medical Inpatient Services	-9,392	CE saved days @ 75%	-35.71	-$2,079,975	-$189,480	
712200000 Surgical Inpatient	-15,919	CE saved days @ 75%	-64.97	-$3,857,867	-$390,296	
712300000 Combined Medical/Surgical	-1,148	CE saved days @ 75%	-3.62	-$234,741	-$27,406	
7124 ICU/CCU	0	No change in critical care days				
712500000 Birthing Program	-4,891	CE saved days @ 75%	-28.43	-$1,902,488	-$148,155	
712600000 Operating Rooms	0	Total OR cases unchanged				
712750000 Psychiatry	-1,056	CE saved days @ 75%	-3.41	-$195,550	-$5,822	
713100000 Emergency	0	No change in ER visits				
713401000 Medical	1,048	Increased Day Surg Procs	1.36	$84,933	$20,895	
713402000 Outpatient Surgery (Admit & Recover)	1,943	Increased Day Surg Procs	3.33	$224,849	$30,766	
71410-71430 Laboratory & Diagnostics	0	Negligible impact				
714350000 Respiratory Therapy	-357,584	IP wtd cases -7.65% @ 75%	-4.05	-$236,495	-$83,261	
714400000 Pharmacy	-4,839	RIW Wtd Cases @ 75%	-6.57	-$369,188	-$719,094	
714450000 Clinical Nutrition	-2,756	6.60% reduction in wtd cases	-1.98	-$107,943	-$3,942	
714500000 Physiotherapy	-6,502	6.60% reduction in wtd cases	-3.03	-$181,971	-$1,465	
714550000 Occupational Therapy	-1,664	6.60% reduction in wtd cases	-1.25	-$82,127	-$2,138	
714602000 Speech/Language Pathology	-449	6.60% reduction in wtd cases	-0.48	-$29,759	-$1,985	
714604000 Audiology	-6	6.60% reduction in wtd cases	-0.01	-$444	-$205	
714700000 Social Work	-2,606	6.60% reduction in wtd cases	-2.26	-$138,838	-$798	
714750000 Psychology	-381	6.60% reduction in wtd cases	-0.41	-$22,673	-$574	
714800000 Pastoral Care	-6.60%	6.60% reduction in wtd cases	-0.60	-$30,904	-$1,010	
714850000 Recreation	-137	6.60% reduction in wtd cases	-0.06	-$3,545	-$100	
719206100 Telephones	-41,090	Reduction in adult patient days				$18,130
719206200 Televisions	-41,090	Reduction in adult patient days				$20,837
719208500 Parking	-41,090	Reduction in adult patient days				$4,788
819151000 Standard Ward - Acute Care	-41,090	Reduction in PQ revenues				$2,359,216
819153600 Stand Co-Payment - ALC	-10,119	Reduced per CE analysis				$145,813
819154000 Newborn Nursery Revenue	-2,117	Reduction in newborn days				$70,642
819155020 Acute Care - Semi-Private	-41,090	Reduction in adult patient days				$1,368,916
819155040 Acute Care - Private	-41,090	Reduction in adult patient days				$1,109,051
819157000 Other Inpatient Revenue	-41,090	Reduction in adult patient days				$367,543
Total Annual Clinical Efficiency Impacts			**-203.04**	**-$11,349,400**	**-$2,443,172**	**$5,464,936**
Net Impact of Clinical Efficiencies						**-$8,327,635**
Clinical Efficiency Impact Attributable to Heart Institute						-$1,324,689
Net Impact of Clinical Efficiencies Available to TOH						**-$7,002,946**

The total cost reduction is $13.8 million using this approach to estimating the savings potential of the clinical efficiency target. The cost savings (not including revenue changes) is about 74% of the theoretical cost savings calculated as the product of the net reduction in weighted cases and the Hospital's cost per RIW weighted case. Note that the clinical efficiency cost estimates in this table incorporate the 1999/2000 actual departmental operating efficiency performance. The cost saving will be offset by a loss of revenues of approximately $5.5 million. Thus we project a net cost -revenue change from 1999/00 of about $8.3 million. It should be noted that we estimate that approximately $1.3 million of the net clinical efficiency savings are attributable to the Heart Institute. Thus, there were $7 million in net savings available to The Ottawa Hospital from achieving the targeted levels of clinical efficiency.

The hospitals planning and budgeting should proceed with the expectation that the hospital can achieve significant clinical efficiencies and related cost savings. As can be seen, we estimate that net savings of over $7 million should be achievable by the Ottawa Hospital. Our experience suggests that the hospital should be able to realize these savings within 2 years of initiating aggressive utilization management practices.

It is recommended that:

(26) The CEO and the CQRM process should set utilization management/clinical efficiency targets that will achieve reductions in patient days approaching 11% over the next two years.

(27) The CEO, the Program Vice Presidents and Program Medical Directors should set workload and productivity targets that will provide for cost reductions from clinical efficiencies approaching $11.6[82] million per year within 2 years.

(28) The CFO and the Program Vice Presidents should work to minimize the impact on revenues of the reduction in patient days but should plan for a reduction in room differential revenues approaching $5.5 million.

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[82] 84% of potential clinical efficiency savings attributable to TOH.

5.0 Teaching and Research

5.1 TOH Role in Teaching and Research

The Ottawa Hospital is the primary teaching site for the Faculties of Medicine and Health Sciences of the University of Ottawa. As a teaching hospital it is responsible for providing training for undergraduate medical students and to a variety of postgraduate residency training programs. It also provides training for a number of other health disciplines such as nursing, physiotherapy and occupational therapy through the Faculty of Health Sciences.

The Ottawa Hospital also has an affiliated Research Institute. The research institutes at the former Ottawa General and Civic Hospitals are about to be merged into a single entity. The Ottawa Heart Institute maintains a separate and independent research institute. The individual research institutes have strong track records. They have been very successful in accessing funding from a variety of peer-reviewed sources.

The Faculties of Medicine and Health Sciences and the Research Institutes are vitally linked with the success of The Ottawa Hospital in fulfilling its missions in teaching and research and in patient care.

5.2 Teaching

The merger of the Riverside, Ottawa General and Civic Hospitals has posed a number of challenges for teaching. These challenges include:

- Maintaining/enhancing the profile of teaching during the merger.
- Integrating academic and community physicians into the teaching programs at the hospital.
- Standardizing policies, procedures and practices.
- Assigning residents and clinical teaching units within the organization.

5.2.1 Integrating Academic and Community Medical Staff

It is important to note that the Ottawa General and Civic sites have very different histories. Over the years there has been little collaboration between these predecessor hospitals. They competed for staff, facilities, clinical programs, research funding and community support. Because of the history of competition, the allocation of academic programs between sites of the merged hospital has left some clinical staff feeling like 'winners' or 'losers'.

Furthermore, the Riverside was a community hospital with very little experience in clinical teaching and virtually no experience in research. The Civic site had a mixture of academic and community physicians and physicians who pursued both. For many medical staff, there have been problems associated with integrating academic and community interests and also the unique cultures of the three sites.

The divergent histories of the three sites of The Ottawa Hospital have complicated progress in integrating teaching programs across the sites. However, the general thought appears to be that if The Ottawa Hospital continues to demonstrate a fundamental commitment to and support for teaching, research and patient care across all three sites that many of the historical rivalries and the cultural issues associated with the merger will quietly disappear.

Two of the sites of The Ottawa Hospital (i.e. the General and Civic sites) have a lengthy tradition of teaching medical students and other health profession undergraduates and providing teaching through a variety of residency programs. The Ottawa Hospital is therefore closely linked with the Faculties of Medicine and Health Sciences of the University of Ottawa. On the other hand, the Riverside site did not play a major role in teaching nor were the medical staff involved in academic pursuits. To further complicate the issue, the medical staff at the former Civic Hospital included both academic and community-based physicians.

When the merger was completed, the Faculty of Medicine offered university appointments to all physicians who were on staff at the Riverside, General and Civic sites. Generally the specialists and subspecialists from the predecessor hospitals accepted these appointments whereas primary care physicians (e.g., family physicians) were less interested and a large number of them declined these appointments.

By accepting all medical staff as potential teachers, the Faculty of Medicine created a broad base to share the work of clinical teaching. This is an excellent resource since many Ontario medical training programs are simply unable to offer high quality community-based teaching. The additional capacity also will be beneficial if the size of the medical classes and/or residency programs are increased. On the other hand, many of the new faculty appointees are inexperienced teachers. They will require support from the faculty. However, it appears that in most cases the additional teaching capacity has been well received by the Hospital and by trainees. Clinical Teaching and Residency Coverage

There has been a good deal of change since the original thought that the merger would restructure activity so that the Ottawa General Hospital would be the region's tertiary center and the Civic Hospital would function more like a community hospital. Since the merger, the hospital has adopted a more balanced clinical model with tertiary and secondary activity and teaching at both sites. The Riverside site has been retained and now supports ambulatory services including clinics, outpatient surgery and urgent care.

5.2.2 Medical Residents

The balanced model of program distribution appears to have been taken in part to ensure that teaching opportunities would be spread equally across the organization. The thinking of the hospital and the faculty appears to be that providing programs to support residents at both campuses best supports resident teaching and patient care. Trainees generally need and want to learn about secondary and tertiary clinical medicine. Concentrating all of the tertiary activity in one site would have reduced the volume of secondary activity at that site and might have resulted in trainees needing to leave that site in order to pursue secondary clinical activity at the other site. The Faculty of Medicine and the hospital agree that the balanced model represents the best opportunities for clinical teaching. Given the balanced model, teaching activities will be evenly distributed between the two main sites. It is still not entirely clear how the Riverside Site will be used for teaching, although it is expected that residents will participate in ambulatory clinics and outpatient surgery.

To date, The Ottawa Hospital has formulated a plan to redistribute residency coverage and Clinical Teaching Units across the organization. This plan was developed several months ago and good progress seems to have been made toward implementation.

A reduction in the number of residents and in the number of coverage hours provided by each resident are causing problems in ensuring adequate coverage for patient care at both sites while maintaining sufficient training/education opportunities for the resident. Because the numbers of residents have been cut back considerably during the last five to 10 years, there has been and will continue to be problems in distributing residents and medical students across the sites to provide adequate coverage for patient care. This problem has been exacerbated by the recent PAIRO agreement that reduced overnight coverage by residents by 25%. As a result there may not be enough residents to provide coverage for both inpatient sites. The only options are to fully consolidate clinical teaching units at one of the sites or provide coverage at both sites in ways other than reliance on resident coverage. If clinical teaching units are consolidated, then there likely will be a problem of the mix of service and education. If clinical units are not consolidated, then the alternative approach to coverage will likely require spending by the hospital for one or more of clinical fellows, professional assistants, hospitalists or Clinical Nurse Specialists. There is a limit to the service requests that can be placed on academic physicians; even when there is a large number to be drawn upon. But there is also a limit on the resources available to the hospital to pay for physician coverage in off-hours. The hospital is working with the Faculties of Medicine and Health Sciences to ensure that trainees are distributed across the sites in a way that provides for both the education and experience needs of the residents and needs of the hospital for physician coverage and support for patient care.

It appears that all possible efforts have been taken to ensure that key programs and services are covered. Although MOHLTC has plans to increase the numbers of residents, it does not appear that these numbers will approach the peaks attained prior to the declines in funding for physician training. Although these increases will not happen immediately, when they are introduced they are expected to address and alleviate the most pressing shortages of house staff.

The hospital might also explore the benefits that would be provided by an Alternate Funding Plan (AFP) for its medical staff.

5.2.3 Faculty of Health Sciences Programs

There is also a concern that since the merger, most health professions, with the exception of medicine, have lost professional voice and advocacy within the hospital. This is partly due to program management and the elimination of the traditional professions-based organizational structure of hospitals. This has affected the teaching and learning opportunities for non-physician health professionals at The Ottawa Hospital. It appears that the Hospital is addressing this issue through the creation of a professional leadership structure to support both professional practice and clinical education. While there are expenses involved in (re)building this structure, they are critical to the training in a number of health professions programs.

The Faculty of Health Sciences has experienced other problems with the merger and the subsequent and planned realignment of programs and services. Most importantly, clinical teachers have been moved around this system, especially in nursing. For example, an accomplished teacher in surgical nursing might have been moved to intensive care or obstetrics and gynecology during the merger. As a result of this, clinical teachers themselves have to learn and become comfortable with new skill sets before then can be effective teachers.

5.2.4 Standardizing Policies, Practices and Procedures

Given the role of the Faculty of Medicine in standardizing the teaching processes, the sites were already close in terms of standardized policies, practices and procedures for teaching. Some work needs to be done to ensure continuity between the sites, but this work should not be costly. The Faculty of Medicine is leading an information technology-based initiative to extend teaching to undergraduate medical students. The Faculty plans to ensure that The Ottawa Hospital is integrated into this initiative.

5.3 The Costs of Teaching

The pre-merger hospitals had parallel infrastructure go to support clinical teaching. While the infrastructure costs are not significant, they can and should be reduced by creating a single infrastructure for teaching that supports the needs of all three sites (and others if/when they are added). In most hospitals, the infrastructure for teaching programs is generally relatively inexpensive.

In 1999/00 the hospital reported that it spent $2.8 million on medical education. This was 0.5% of the total cost of hospital operations. Efforts have recently been initiated to eliminate overlap in functions and positions and this will help to reduce these costs. The costs of medical education (as reported by the hospital in its MIS trial balance) are presented in an appendix to this report. It should be noted that $2.8 million is only the costs that are exclusively directed to the teaching within the hospital. The joint product of service, teaching and research adds significantly to the cost of a teaching hospital. In 1999/00 the average inpatient direct cost per RIW was approximately 30% more in Canadian teaching hospitals than in large community hospitals[83]. This difference has been attributed to the added cost of supporting teaching and research.

Another cost of teaching is the potential conflict between the academic interests and needs of the medical school and the financial resources of the hospital to support these interests. This conflict is most evident in the recruitment of staff to the faculty who will also need an appointment to the hospital. Since the merger this has not been a major issue or cost for The Ottawa Hospital. However, the Faculty of Medicine is collaborating with the Hospital to construct a master plan to recruit new medical staff that will enhance the academic activities of the hospital in both research and teaching. Given the fiscal problems of the hospital, it will need to be sure that it can support the clinical activities of the new staff and/or that the new staff does not add unfunded patient volume and/or operating costs to the hospital.

5.4 Research Activities – The Research Institute

There are several potential opportunities for improvement in the research endeavours of the hospital and its affiliated research institutes:

- Eliminate infrastructure and management overlaps resulting from the merger of the research institutes
- Strengthen fund-raising initiatives
- Improve recruitment and retention of top academics and clinicians
- Improve alignment of the Research Institute with mission, vision and goals of The Ottawa Hospital

The decision has already been made to merge the research institutes of the former Ottawa General and Civic Hospitals. The search for the director for the new Research Institute is underway and will be completed shortly. The new director will be a Vice President on the Hospital's senior management team, thereby tightening linkages between the Hospital and the new Research Institute.

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[83] Benchmarking Comparison of Canadian Hospital, 2000. ACAHO/HayGroup.

In terms of opportunity, it is believed that the merger will enable The Ottawa Hospital to present a more unified research presence in order to attract higher profile clinical and basic sciences researchers and to attract more funding in the form of peer reviewed grants. The Ottawa Hospital is in a highly competitive environment for top-flight clinicians and health sciences researchers. A well funded, robust research institute is therefore critical to recruitment and retention of academic physicians and other health professionals to The Ottawa Hospital.

Historically the research institutes of the two predecessor teaching hospitals have competed with each other. According to management, competition of this nature is inconsistent with the mission, vision and goals of the merged hospitals. The merger of the research institutes will reduce and over time eliminate this historical rivalry and competition.

The former Loeb Institute (sited at the Civic campus) has an operating budget that is roughly twice that of the Research Institute at the General campus. The Research Institutes receive some operational funding from The Ottawa Hospital and thus indirectly from the Ministry of Health and Long Term Care (MOHLTC).

The hospital also, independently supports the research activities of its clinical staff. The costs to the hospital of supporting research (as reported by the hospital in its MIS trial balance) were approximately $2 million in 1999/00. Its spending on support for research is comparable to the costs reported by its peer hospitals in Ontario.

The hospital also provides some indirect financial support to the Research Institute that continues an established arrangement between the Ottawa Civic Hospital, the Ottawa Civic Hospital Foundation and the Ottawa Civic Hospital Loeb Research Institute[84]:

- The foundation will provide funding to the research institute derived from the Ottawa Civic Hospital parking operation. This is generating approximately $2 million in funding for the research institute that would otherwise be revenue to the hospital.

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[84] Notes to the Financial Statements of the Ottawa Civic Hospital, March 31, 1997.

- The hospital will lease space to the research institute for a nominal amount.

However, the lion's share of funding for the hospital's and its institute's research activity is derived from a variety of peer-reviewed grants. The Research Institutes have an enviable record in attracting such grants and other forms of funding that do not come from MOHLTC.

The Research Institutes provide the framework to support a formal residency program in research. The capability of this source clearly augments current clinical teaching programs and enhances the academic profile and competitiveness of the Faculty of Medicine and The Ottawa Hospital. This program will be fashioned on a similar program offered by the Faculty of Medicine at the University of Toronto.

There may be some opportunities for limited operational savings from the consolidation of the research institutes into a single organizational entity. It appears that the research institutes have relatively lean in-house support services and infrastructure. However, there may be opportunities to identify overlaps in infrastructure and to reduce costs accordingly. Furthermore, there will likely be overlaps at the middle and senior management levels within the organizational structure of the merged research institute. Although outside the scope and focus of this review, we encourage the new Director of the merged research institute to identify all such overlaps and aggressively seek their elimination.

It appears that there is little overlap in the range of research activities undertaken at the research institutes of the Civic and General sites. Given the dissimilarities there are likely few opportunities to consolidate research activities. Therefore, there is likely little to be gained in terms of cost savings through elimination of duplicated activity or sharing of technology.

There are different standards, policies and practices with respect to research across the country. Certainly, the individual research institutes have different approaches to bench research and to accessing peer-reviewed grants. The merger of the research institutes creates an opportunity to standardize the grant applications process and to achieve certain economies of scale in these and related processes.

A research culture, while important to the Faculties of Medicine and Health Science and to The Ottawa Hospital as a whole has not been as pervasive within the organization as might be desirable. This is partly due to structural considerations (e.g., the research institutes have been largely separate from their partner hospitals). The merged research institute should raise the profile of research both internally within The Ottawa Hospital and externally in the community and other stakeholders, including the University and the technology and biotechnology industries.

6.0 Departmental Reviews

Pressures to manage operating costs are challenging hospitals to find new ways of doing things, while at the same time demanding that service quality be maintained and even improved. Service delivery is composed of three integrated components, as follows:

- Human Resources – staffing, organization, competencies, training and education
- Technology - "tools" used in delivering services (information systems, equipment, etc.)
- Process - methods and organization of how services are delivered.

The objective of the departmental reviews was to identify potential opportunities where TOH could improve the efficiency and cost effectiveness within selected functional centres and services.

Performance Screening Exercise

A functional centre performance screening exercise was undertaken was to identify areas at TOH that seemed to have significant opportunities for improvement in productivity and/or for reduction of costs. For purposes of this review it was agreed by the project's Steering Committee that the performance of the TOH's functional centres would be compared against a peer comparator group comprised of the following Ontario teaching hospitals:

- Hamilton St. Joseph's Hospital
- Hamilton Health Sciences Centre
- London, Health Sciences Centre
- Mount Sinai Hospital, Toronto
- St. Michael's Hospital, Toronto
- Sunnybrook and Women's Health Sciences Centre
- University Hospital Network, Toronto

The performance screening exercise compared each of TOH's functional centre's performance relative to the 25th percentile performance achieved of the peer group. The Project's Steering Committee selected the 25th percentile performance level as the threshold for selecting departments and functional centres to review in this project. The 25th percentile was felt to be a reasonable expectation of the level of performance for functional centres in Ontario hospitals. It was thought that best practice performance was not a reasonable target for the purposes of this type of operational/funding review[85]. (However, it is noted that many hospitals are benchmarking and attempting to achieve best practice performance as part of their Continuous Quality Improvement Exercises.) The comparison of the performance of TOH's functional centres with those of peer hospitals was conducted using the 1999/2000 MIS Trial Balance Data files[86] submitted by all hospitals to the MoHLTC.

The objective of the screening exercise was to identify areas at TOH that seemed to have significant opportunities for improved productivity and reduced costs relative to the 25th percentile performance of the peer group. The use of the 25th percentile performance level for screening *does not imply* that this is the ideal or expected performance level; its' use was to simply identify functional centres for review. Because many of the functional centre's at TOH perform at or close to the 25th percentile level of its peers, not all areas were visited or reviewed in detail as part of this project.

On-Site Interviews, Observations & Follow-up Data Analyses

The degree and magnitude of improvements in productivity and reductions in cost that the functional centres could achieve was determined through on-site interviews, observations and follow-up data analyses. The areas of focus during the on-site encompassed the following:

- Organization Design & Management Processes
- Departmental operations and procedures
- Inter-departmental coordination and processes
- Facilities, Equipment and Supplies
- Productivity and Staffing Review
- Impacts of Other Organizations
- Opportunities for improvement, including redesign or reengineering of work processes, alternative service

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[85] The Steering Committee also took note of the vagaries in reporting of workload, staffing and costs among Ontario hospitals. The budget for this project did not allow for reviewing the reporting of comparator hospitals to confirm the accuracy of their data. It was felt that use of the 25th percentile would guard against using 'noisy' data from a comparator as the screen for selecting functional centres to review in this project.

[86] All hospitals in Ontario are required to report financial and statistical information in a standardized structure.

delivery approaches, improved use of information technology, etc.

Subsequent to our performance screening exercise and on-site reviews TOH submitted a list of required data corrections to their own MOHLTC reported 1999/2000 MIS Trial Balance Data, consisting of errors/omissions and the transfer of staffing and costs from one functional centre to another. Based upon our review of the requested changes in relation to MoHLTC reporting guidelines and our experience in hospital reporting practices, the appropriate data changes were made[87]. The revised data sets were incorporated into our development of proposed performance targets for the areas reviewed.

Based on the comparative analyses and on-site reviews we have recommended and quantified potential improvements in levels of performance of many of the hospital's functional centres. In some of these functional centres the suggested/targeted performance levels will remain above the 25th percentile performance level of the comparator hospitals. In other areas the performance target is at or better than the 25th percentile performance level of the peer group. As TOH moves forward with the recovery plan further opportunities for improved performance may also arise.

Appendices A and B provide the results of the data analysis component of this operational review:

- Appendix A presents the functional centres that were reviewed and the proposed performance targets for these services.
- Appendix B presents the results of the performance screening exercise and those functional centres that did not undergo further on-site review. In some areas the incorporation of TOH corrections to their MIS trial balance data suggested other functional centre's that might have been considered for review. However, the data were corrected after, the functional centre review process had been initiated and there was no time or budget to visit additional areas of the hospital. As a result additional opportunities for improved performance and reduced cost may be available to the hospital in addition to those identified in the departmental reviews.

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[87] Because of these changes, the resulting MIS Trial Balance file used in this project is not the same as the hospital's submission to the MOHLTC or to Hay for ACHAO benchmarking comparisons of Canadian hospitals.

6.1 Nursing Services

There are a number of factors that have affected the delivery of nursing services at The Ottawa Hospital (TOH) since its creation in April of 1998. The first year of the merger was a year of turmoil and reorganization. During 1999/00, the Riverside Campus inpatient beds were closed, the Riverside Emergency Department was converted to an 'Acute Ambulatory Medical Centre', The Salvation Army Grace Hospital closed with resulting integration of programs, physicians and patients into TOH. Our analysis of the delivery of Nursing Services focused on 1999/00 and took into account the impact and implications of these changes in the volume of patients and the organization of patient care at The Ottawa Hospital.

The first section of this report will present the findings related to nursing services that appear to be common across all program areas. Findings specific to each of the program areas follow.

6.1.1 Overview and Common Findings

There are several common findings for Nursing services, many of which relate to the integration activity of the organization in 99/00. It is clear that nursing staff have experienced significant stress during the first two years of the merger that have led to less than optimal clinical working conditions.

Occupancy Rates

High occupancy rates across the organization have been a significant factor in diminishing the effectiveness and efficiency of the hospital's nursing staff. The following table presents the occupancy rates of the programs of TOH and its predecessor hospitals since 1997/98 as reported in the hospital's operating plan for 2000/01.

Exhibit 6.1.1: Occupancy Rates

Indicator		1997/98 Actual Year End	1998/99 Actual Year End	1999/00 Forecast Year End	% Change
Beds	Medical/Surgical	781	830	723	-7.4%
	Intensive Care	46	42	50	8.7%
	NICU Bassinets	25	25	25	0.0%
	Obstetrical	103	75	88	-14.6%
	Nursery Bassinets	117	117	101	-13.7%
	Mental Health	73	76	77	5.5%
	Total Short Term	1,003	1,023	938	-6.5%
Occupancy	Medical/Surgical	93.6%	90.2%	93.5%	-0.1%
	Intensive Care	78.9%	98.6%	94.2%	19.4%
	NICU Bassinets	73.6%	78.4%	65.1%	-11.5%
	Obstetrical	67.4%	102.2%	96.0%	42.3%
	Nursery Bassinets	48.1%	51.7%	58.8%	22.3%
	Mental Health	90.0%	88.2%	86.5%	-3.9%
	Total Short Term	90.0%	91.3%	93.2%	3.6%

Source: TOH 2000/2001 Operating Plan

Some of the key impacts for nursing services of continuing high occupancy include the following.

- Patients are placed off service and do not receive care from the most appropriately trained staff
- There are a significant number of transfers to move patients to the appropriate service or to the appropriate preferred accommodation when possible. Nurses are daily spending a significant amount of time in this administrative activity, which reduces the time available to provide patient care. In 99/00, transfer activity changed from the 98/99 levels as noted below:
  - total number of transfers increased by 11%
  - transfers per admission increased by 6%
  - transfers per patient day increased by 9%.

The following table provides a comparison of the TOH transfer activity compared to the peer group's reported transfer activity[88].

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[88] Intra-facility transfers as reported in the MoH trial balance files. A transfer is recorded when an inpatient is physically moved within a facility from one functional centre to another functional centre within the same patient type.

Exhibit 6.1.2: TOH Transfer Activity versus Peers

		Transfers per Admission	Transfers per Patient Day
TOH	1996/97	1.60	0.25
	1997/98	1.81	0.26
	1998/99	1.89	0.26
	1999/2000	2.01	0.28
Peer Range 1999/2000	Minimum	0.98	0.13
	25th	1.17	0.20
	Median	1.68	0.26
	75th	1.73	0.27
	Mean	1.50	0.23

The high occupancy not only increases the complexity of the workload for nursing, it impacts on the support services that nurses rely on to deliver care. There have been issues related to the timeliness and quality of housekeeping and linen services that may be caused by the additional workload related to bed/room cleaning created by the increasing number of transfers.

As noted earlier in this report, if the length of stay is reduced, there will be an opportunity to reduce the overall number of patient days and thus reduce occupancy rates. This should allow the hospital to reduce the number of admissions to off-service beds and thus reduce the rate of transfers.

It is recommended that:

(29) The Program Medical Directors and the Program Vice Presidents should work together to ensure a reduction in occupancy rates and the related volume of transfers as the hospital's utilization management processes reduce lengths of patient stay at the hospital.

Staff Turnover in Patient Care Units

During 99/00, the merger and absorption of programs from other hospitals continued to generate significant bumping of staff across the organization. Nursing staff from both the Riverside Campus and the Grace Hospital were integrated into positions across the organization where appropriate. Additional orientation and training costs were incurred as some staff from these organizations did not have the prerequisite skills and experience to work in a teaching/tertiary care environment. And some staff were 'bumped' into units where they had not worked and required support to achieve appropriate competencies for these nursing areas.

Also there was a shortage of qualified internal and external applicants for available RN positions. In January 1999, there were 162 vacant positions, mostly in the critical care areas. This situation is not unique to TOH or to the Ottawa region. However shortages of qualified staff create difficulties and stress at the frontline in the delivery of care.

In 1999/00 there were 357 new hires, mostly new graduates. As is the case elsewhere, these new graduates generally required more orientation and training than would more experienced staff. In 1999/00, there were also 852 internal staff transfers. If we assume that each new hire and transfer required an average of 4 weeks for orientation and training, then this level of recruitment and transfer diverted the equivalent of 100 FTEs of nursing staff from direct care to training.

To address the high turnover and transfer rate within nursing and recognizing the significant national and provincial issues of nursing recruitment and retention, the hospital established the Recruitment and Retention Task Force. The task force will develop recommendations to stabilize the work force by improving the quality of work life for nursing staff and to increase the effectiveness of hospital's recruiting. The Vice President of Nursing and the Chief Nursing Officer should expedite consideration and implementation of the task force's recommendations.

Facilities, Equipment and Supplies

Deficiencies in the number and repair of appropriate equipment can have a significant negative impact on patient care.

- The General and Civic Campus have a particular problem with a lack of appropriate patient beds. Most of the beds are manual and some are not in good working order. This impacts the quality of patient care and increases nursing workload. It also contributes to workplace injuries, particularly back injuries. Newer beds from the Grace Hospital and the Riverside Campus were distributed across various units with greatest need, however, this remains a major consideration for effectiveness, efficiency, staff safety and quality of care.
- The hospital does not have a preventative maintenance program for the basic equipment in the patient care areas. such as wheelchairs, beds, pumps, etc.
- There has been very limited spending for replacement of minor equipment and for acquisition of new technology

that support improvements in practice (e.g. stretchers, thoracic insufflater/exsufflater – ICU, surgical ophthalmology instrumentation, etc.).

It is recommended that:

(30) The Program Vice Presidents should ensure that necessary replacement of patient beds and other required patient care equipment is a priority in the hospital's budgeting processes.

(31) The Vice President, Facilities Management should implement a structured preventative maintenance program for basic equipment such as beds and wheel chairs at all campuses.

Nursing Management Structure and Processes

In 1999/00, as the organization was newly merging, there were inconsistencies in the reporting of nursing administration hours. These inconsistencies have been recognized internally. As the organization begins to align practices, policies, and models of care, etc. more consistency in the definition and reporting of administration hours can be expected

Model of Nursing Care Delivery

During 99/00 there was a change in the Chief Nursing Officer. Since this change, a professional practice model has been developed. A model of nursing care delivery is being developed and should be implemented in the very near future. It should be noted that the same model of care might not be appropriate for every care area. Consideration should be given to translating the philosophy of nursing care and the professional practice model into models of care appropriate to the needs of patients in each program of the hospital.

Program Management

The implementation of program management at the hospital appears to be achieving a level of stability. However, during the 1999/00 period there were a number of factors related to the implementation of program management that affected the management of nursing. Although, the corporate clinical program structure was established in 1999/00, there were a significant number of resignations of many of the clinical directors and clinical managers (acceptance of severance packages, etc.) during this period of time.

- This contributed significantly to a sense of insecurity and declining morale among nursing staff throughout the organization.

- A significant portion of the nursing and clinical management knowledge base has been lost from the organization.

These problems were exacerbated by resignations among the leadership of many of the allied health and support departments at each of the campuses.

Although the program management model was implemented in 1998, the three campuses operationalized the structure differently and this contributed to confusion among staff, especially those who moved from one campus to another.

Also, with the introduction of program management there needed to be a change in the reporting of nursing management hours. Nursing management positions should be reported to the Ministry (and perhaps internally) programmatically in accordance with the structure of the MIS guidelines.

It is recommended that:

(32) The CEO, Program Vice Presidents and the Chief Nursing Officer should ensure greater consistency in the implementation of program management across all campuses.

(33) The Program Vice Presidents should ensure that the program organizational structures align nursing management consistently across all programs in relation to their prescribed role within the program management model at the Hospital.

Sick time

Sick time is reported to be up across the organization. The total Unit Producing Personnel (UPP) sick leave hours as reported in TOH's internal Management Reports were 3.2% of total paid hours in 99/00. Although this is not high compared to other Canadian teaching hospitals[89], sick time increased from 2.6% of total hours in 98/99 to 3.2% of total hours in 99/00 or an increase of about 46,000 hours of sick time.

The total absentee hours reported by the Hospital are as follows:

In 1998/99

- The hospital rate was 4.3%,

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[89] 1999 Benchmarking Comparison of Canadian Hospitals: Teaching Hospitals, ACTH & HayGroup, Toronto. Page 69

- The ONA rate at the Civic Campus was 5.7%
- The ONA rate at the General/Riverside Campus was 4.9%

In 19999/00

- The hospital rate was 4.6%,
- The ONA rate at the Civic Campus was 6.1%
- The ONA rate at the General/Riverside Campus was 5.4%

The organization has recently implemented an attendance management program and this should be aggressively developed to help reduce the total sick time.

Overtime hours

Overtime hours for all UPP of TOH have increased over 300% from 97/98 to 99/00. The portion of these hours allocated to nursing has not been determined by the hospital. Assuming that nursing comprises the largest portion of UPP hours, the assumption can be made that there has been a significant increase in the overtime hours for nursing for 99/00.

It is recommended that:

(34) The Program Vice Presidents and the Vice President, Human Resources should aggressively implement the hospital's attendance management program.

Staff Replacement

One of the biggest issues faced by nursing management at The Ottawa Hospital is the diversity in approaches to staff replacement across the three campuses. The General Campus uses a centralized system for staff replacement and the Civic Campus uses a decentralized system. Staff replacement is inappropriately taking a significant amount of unit management at both campuses. This is having a direct impact on the effectiveness of front-line nursing management and indirectly on the efficiency and effectiveness of nursing services overall. There is opportunity for the organization to make improvements in this area.

It is recommended that:

(35) The Vice President of Nursing should improve and standardize the processes for securing and managing staff replacements at all campuses.

Workload Measurement

The nursing workload measurement system (WMS), as currently implemented, does not provide the type of information required by the organization to support daily staffing management or resource allocation within the budgeting process. Although all three campuses are using the GRASP Nursing WMS, there have been different approaches to implementing this methodology at each of the campuses. As a result, data from the reporting systems currently being used are not comparable across campuses, and the validity of the measurements is questioned by TOH nursing management. The organization has been delayed in moving ahead with major improvements in this area (Y2K, IS impact, etc.) As a result there has been no information for comparisons of resource requirements across care areas or campuses. Workload measurement is an important management tool for nursing services. The deficiencies in the current systems must be addressed to support efforts to improve quality of patient care, quality of work-life for nursing staff and consistency in nursing workload to staffing ratios. Ultimately, an improved nursing workload measurement and staffing system will help nursing to better manage and improve productivity of nursing services.

The current proposal for the implementation of a WMS involves a significant investment of dollars and staff time (over $2 million). Restoration of nursing workload measurement is critical to the effectiveness of nursing management. However, based on our extensive experience in developing, implementing and managing nursing workload measurement systems in Canadian teaching hospitals, we feel that the current proposal is unreasonably expensive. Every effort should be made to develop a more cost sensitive approach to re-implementation of nursing workload measurement. In reviewing the proposed plan, it is suggested the Hospital develop revised estimates that consider the following:

- the hospital plans to use the GRASP methodology which is already being used at both inpatient campuses
- use of a standardized tool across similar units in the development of unit WLM tools should allow for a reduction in the estimated costs for implementation
- the in-house experience in workload measurement using GRASP can be used to support redevelopment of the system
- the amount of consulting support can be reduced.
- there should be opportunities to reduce the time and costs associated with staff replacement;

- a less costly, even if less complete, approach to software support for nursing workload measurement should be investigated

We believe that, by building on the hospital's experience with workload measurement and the selected workload measurement system, GRASP, a much less expensive approach to redevelopment and re-implementation could be devised to both meet the needs of nursing management and the reporting requirements of the Ministry.

It is recommended that:

(36) The Vice President Nursing and the Clinical Directors should give priority to the re-implementation and use of nursing workload measurement

(37) The Vice President Nursing should develop a less costly approach to re-implementation of nursing workload measurement than the currently planned $2 million project.

Care Management

The organization has developed a Nursing Practice Plan with a critical path that addresses the development of a model of nursing care delivery and looks at the implications for manager roles, support roles such as RPN/PCA. The hospital should address the issues identified below.

On-campus interviews and observation identified a lack of clarity around the roles and responsibilities of Clinical Managers, Team Leaders, and other care management positions. The issue was identified by the hospital and a comprehensive review of Nursing Positions and Structure was completed in December 1999. The organization should continue to implement the recommendations of this study and in particular address the issues associated with the care management roles across campuses. As well, it was noted that there is variation in the scope of responsibility of clinical managers. Some managers' scope of responsibility appears too big to allow for appropriate management of their staff/care areas.

There is opportunity for the organization to examine the role of the RPN across all campuses. There appears to be variance in how RPNs are being utilized across campuses and the degree to which they work within their Scope of Practice.

The patient care assistant role provides patient care as a member of the team under the direction of the RN. The role is not used across all campuses but where it is in place there is strong support for the assistance it provides the RN in the delivery of nursing services. There is concern within the organization about the ability to recruit appropriate staff for this role. An arrangement has been set up to train individuals in this role at a local community college. The Hospital does not participate in the selection of individuals into the training program and there is some concern about the suitability of the individuals that are being enrolled into and graduated from the program in relation to the requirements of the job at the hospital.

It is recommended that:

(38) **The Chief Nursing Officer and the Vice President Nursing should clarify the roles and responsibilities of Clinical Managers and Team Leaders.**

(39) **The Chief Nursing Officer and the Vice President Nursing should establish more consistency in the role of RPNs across all campuses.**

(40) **The Chief Nursing Officer and the Vice President Nursing should work more closely with the community college in the recruitment and training processes for the PCA.**

It is expected that these recommendations will be addressed in the hospital's process for implementing its model nursing care delivery.

6.1.2 Review of Program Services

Findings for specific program areas are presented below. Onsite visits, discussion, and observation provided substance for the qualitative analysis. Because of data deficiencies, we conducted the quantitative analysis at a relatively high level of aggregation. The productivity of nursing was measured as nursing worked hours per patient day. The productivity of nursing within each program was compared to nursing productivity at peer hospitals selected by the Steering Committee for use in these comparisons.

There are number of opportunities identified to improve efficiencies and quality throughout the patient care areas. However, until the issues of high occupancy as noted earlier are eased in a measurable way, achieving performance targets will be difficult.

6.1.2.1 Medical and Surgical Programs

Inpatient Nursing Unit Operations

The medical and surgical programs were analyzed together because of the number of patient days off-service and the difficulty in isolating days and nursing hours associated with these off service patients. Medicine and Surgery units experienced a great deal of change during 99/00. Nursing units supporting subspecialty services were moved or consolidated, Some units were moved as many as 2-3 times in the course of 12-18 months. The hospital was unable to provide data to support analysis of nursing units or the medical or surgical programs over-time. The findings of our onsite review suggest:

- Many off service medical patients with greater acuity are being cared for on the surgical areas with no change to the typical staffing pattern, resulting in a great deal of stress on the staff.
- There needs to be a review of staffing by unit, particularly across medical care units, to ensure appropriate allocation of resources. This will be important in the future for both medicine and surgery as services realign among units.
- The average acuity per patient day (measured as the average RIW/patient day) is lower at The Ottawa Hospital than at its peer hospitals[90]. This is likely a function of the longer lengths of stay of patients at The Ottawa Hospital compared to its peers. The acuity of the extended days of stay is much lower than the acuity of patient days at the beginning of an episode of care.

Nursing Productivity

In our analyses of The Ottawa Hospital the productivity of nursing staff is measured and compared as the total worked hours per patient day (hrs/ppd).

In 1999/00 the productivity of medical/surgical nursing at TOH was 6.72 hrs/ppd. This is slightly fewer hours/patient day than the 25th percentile performance level of medical/surgical nursing in the peer group of hospitals[91]. The 25th percentile level of the peer group was 6.76 hrs/ppd[92].

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[90] ACAHO/HayGroup 2000 Benchmarking Comparison of Canadian Hospitals-Teaching Hospitals

[91] It should be noted that this analysis and the underlying comparisons do not take into account variation in acuity from hospital to hospital and as has been

Even though the productivity of medical/surgical nursing at the Ottawa Hospital is better than the 25th percentile of the peer group of hospitals, there still are additional opportunities to improve productivity in some of the medical areas. However, given the high occupancy and the resulting high transfer activity it might not have been possible to reduce staffing during 99/00. However, if these problems are corrected there will be opportunities to reduce staffing on some medical units.

- It should be noted that the necessity of an aggregated analysis of all medical and surgical units across all campuses has not allowed us to identify or investigate nursing units that might be considered under or over staffed. Nor have we been able to suggest appropriate productivity targets or staffing levels for individual nursing units or even separate our recommendations for medicine or surgery.
- Based on our review of medical and surgical nursing at The Ottawa Hospital we suggest that the hospital should set and implement a productivity target for nurse staffing of the medical surgical units at the TOH of 6.7 worked hrs/ppd[93]. This is the current (1999/00) level of productivity of medical surgical nursing across all campuses of TOH. As a result, achieving and maintaining this level of productivity will not require a decrease in staffing from the current complement in the combined medical/surgical areas.

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identified the average daily acuity of the Ottawa Hospital is lower than most of its peer hospitals. Lower acuity patients require fewer nursing hours per patient day.

[92] The Heart Institute accounts for 16,295 patient days and 116,821 worked hours. When this impact is removed, the performance of the merged Medical Surgical areas is 6.69 hrs/ppd. The Hospital is operating with fewer nursing staff than the 25th percentile of the comparator hospitals. However, the comparator hospital have the relatively high acuity medical surgical cardiac care beds included in their statistics. (The Heart Institute is operating at 7.2 hours per patient day; well above the 25th percentile of the comparator hospitals. But, again, the comparator hospitals include programs in addition to cardiology and cardiac surgery that may require fewer nursing hours per patient day.)

[93] It should be noted that if the hospital is successful in reducing the ALOS of medical and surgical patients, then the nursing hours per separation can be and will be reduced. But it will need to reset (increase) the productivity target of nursing hours per patient day for the remaining patient days to better reflect the higher average acuity per patient day of the remaining, smaller number of patient days for each inpatient episode of care.

- The reduction of high occupancy and transfer rates are key enablers in the organization's ability to improve this level of nursing productivity.

It is recommended that:

(41) The Program Vice Presidents should allocate staffing resources to nursing within the medical and surgical programs based on a combined productivity target of 6.7 worked hours per patient day

(42) The Vice Presidents and Clinical Directors of Medicine and Surgery in partnership with the VP Nursing and Chief Nursing Officer should establish unique productivity targets for medical and for surgical nursing that maintain the overall performance target of 6.7 hours per patient day.

(43) The Vice President and Clinical Directors within Surgery, in partnership with the VP Nursing and Chief Nursing Officer should establish unique productivity targets for each surgical nursing unit that maintain the overall target established for the program.

(44) The Vice President and the Clinical Directors within Medicine, in partnership with the VP Nursing and Chief Nursing Officer, should establish unique productivity targets for each medical nursing unit that maintain the overall target established for the program.

(45) The Program Vice Presidents in partnership with the Vice President Nursing and the Chief Nursing Officer should increase the program specific nursing productivity targets to reflect the hospital's success in reducing ALOS within each program

Outpatient Clinics

A number of clinics were visited and reviewed and there are some common issues for all clinics. Based on our visits to selected clinics, our review of comparative data and our experience with clinics in other similar hospitals, we offer the following observations.

- Medical Clinics are spread across the organization. This results in inefficiencies for management and staffing. There is duplication and a lack of clarity about who is doing what. The role of the RPN could be examined across all clinics and used/enhanced where there is opportunity.

- Many of the facilities for the clinics do not accommodate things like wheelchairs and so a lot of time is spent by staff transporting/moving patients
- There are issues with location of soiled and clean areas in some of the clinics
- There are issues of integrating the health records of inpatients with the records maintained in the clinics. Clinics maintain significant records of their own and therefore require staffing to support this. Also, the staff of the clinic are not fully informed of inpatient treatments and outcomes. Conversely, inpatient providers are not fully informed of the outpatient diagnoses and treatments. This is not good care. Development of a unique identifier and either a unified record or an electronic record are key to improving integration of information across all care campuses, facilitating information flow and improving operational efficiency.

Nursing productivity in outpatient clinics is measured and compared as the total worked hours per visit (hrs/visit).

Individual clinics are often not comparable from hospital to hospital making comparison of clinic productivity quite difficult. Because of differences in naming of clinics, work content, measurement and approaches to staffing among hospitals, comparisons are difficult and not as meaningful as comparisons for other areas of the hospital. We do not believe that it is reasonable to assume direct comparability of work content or measurement among clinics or across hospitals. The statistical comparisons by themselves cannot be used as the basis for setting productivity targets for individual outpatient clinics. Although it may be possible to identify opportunities for improvement, it is not as easy to estimate the size of the opportunity for each individual clinic.

In considering these analyses, it is important to remember that we are comparing the clinic outpatient activity of teaching hospitals that are similar to The Ottawa Hospital. Although comparisons of individual clinics among hospitals may be difficult, there is reason to believe that measures that span all of a teaching hospitals outpatient clinic activity might be more comparable. The following table presents comparisons of all clinics at TOH combined with a similar measure from the peer hospitals. As can be seen, at the 25th percentile level there is an opportunity for a 12% improvement in productivity, that would generate a staffing reduction of 25 FTEs.

Exhibit 6.1.3
Comparisons of Outpatient Clinic Productivity

Combined Clinics: 713500000	**TOH 1999/2000**	**TOH @ 25th Percentile**	**Change (99/00)**	**% Change (99/00)**
Worked Hours	363,394	320,910	-42,484	-11.7%
Benefit Hours	52,700	46,539	-6,161	-11.7%
Total Paid Hours	416,094	367,449	-48,645	-11.7%
Total FTEs	213.38	188.44	-24.95	-11.7%
Visits	449,297	449,297		
Productivity: Wkd Hrs per Visit	**0.81**	**0.71**	**-0.09**	**-11.7%**
Peer Group Productivity Range	**Minimum**	**Median**	**75th**	**Mean**
UPP+M&O Wkd Hrs per Visit	0.68	0.77	1.12	0.90

Based on our review and the data available we find that there is an opportunity for the organization to achieve some efficiencies in its outpatient clinics. However, we are not sure that the data and our review of the clinics are robust enough to support a reduction in staffing of these areas to the 25th percentile of the peer hospitals. However, we feel that there is an opportunity to improve work processes and productivity and thus reduce staffing in the hospitals outpatient clinic areas. For the purposes of this review we recommend that the hospital can reduce its staffing to achieve 50% of the opportunity were it to achieve the 25th percentile productivity performance of its peer hospitals. This would suggest that the hospital should strive to achieve a productivity level of approximately 0.76 hrs/visit across all its outpatient clinics. This would result in a staffing reduction of 6% or 12.9 FTEs and a saving of approximately $755,000 from staffing and spending in 1999/00. (The hospital should establish separate productivity targets for each of its clinics individually taking into account the work content of the patient-provider interactions and related activity.)

Better consolidation at the Riverside and General Campuses may provide some opportunities to achieve these efficiencies. The physical plant at the Civic Campus contributes to the difficulty in improving productivity to achieve the full opportunity suggested by the comparison with peer hospitals.

Also, to maximize the efficiency of diagnostic and therapeutic services across the hospital, the clinics located at the Riverside

Campus should be those that require minimal support from diagnostic and/or therapeutic services. (Diagnostic and therapeutic services should be concentrated at as few campuses as feasible to minimize the overhead costs of operation.)

It is recommended that:

(46) The Program Vice Presidents should review and determine the appropriate role and location of each of the ambulatory clinics to achieve greater efficiencies and quality of care.

(47) The Program Vice Presidents and the Medical Directors should work together to identify and consolidate clinic activity at the Riverside Campus that does not require high intensity diagnostic or therapeutic services.

(48) The Program Vice Presidents and the Medical Directors should work to achieve an aggregated clinic productivity level of 0.76 hrs per visit.

Day and Night Care

There are some problems in comparing day/night care from hospital to hospital but these issues are not as great as with outpatient clinics. Thus, we are more confident that the measures of productivity available to compare performance among hospitals' day/night care areas provide meaningful information to support this review. Our observations related to the operations of the day care services include:

- There is variation from campus to campus in the Pre-admission processes. At the General Campus all Surgical Day Care patients receive a pre-op interview from a registered nurse for approximately 30 minutes. Nurses do not interview all patients at the Civic Campus. There is a predetermined set of criteria regarding which patients should have a nursing interview as part of the pre-admission process. And even at the Civic Campus some physicians request that all their patients be seen prior to surgery. We feel that nursing interviews prior to surgery can be selective based on criteria that determine the appropriateness of the interview. The hospital should standardize pre-admission screening adopting the approach currently employed at the Civic Campus.
- Physical space is a problem for the Surgical Day Care Unit which is open 24 hours per day. There has been a significant increase in the acuity of patients in this area that

has stretched the capacity of the physical facility as well as the staff.

- Medical Day Care seems to be unable to accommodate the demand for this service.

Once again, the work content, focus and reporting of medical and surgical day care can vary from hospital to hospital. Comparisons of productivity are difficult. The following tables compare the performance of the more costly of these areas (medical day care, outpatient ORs, surgical day care and endoscopy) at TOH with the peer hospitals.

Medical Day Care	**1999/2000**	**TOH Target**	**Change**	**% Change**
Worked Hours	22,509	22,509		
Benefit Hours	2,408	2,408		
Total Paid Hours	24,917	24,917		
Total FTEs	12.78	12.78		
Visits	9,813	9,813		
Productivity: Wkd Hrs per Visit	2.29	2.29		
Peer Group Ranges (1999/2000)	**Minimum**	**25th**	**Median**	**75th**
Productivity: Wkd Hrs per Visit	1.61	2.47	3.83	4.83

Outpatient Surgery(OR/PARR)	**1999/2000**	**TOH @ 25th Percentile**	Change	**% Change**
Worked Hours	27,562	15,123	-12,438.9	-45.1%
Benefit Hours	4,098	2,249	-1,849.4	-45.1%
Total Paid Hours	31,660	17,372	-14,288.3	-45.1%
Total FTEs	16.24	8.91	-7.3	-45.1%
Visits	6,373	6,373		
Prod UPP+M&O Wkd Hrs per	4.32	2.37	-1.95	-45.1%
Peer Group Ranges (1999/2000)	**Minimum**	**Median**	**75th**	**Mean**
Prod UPP+M&O Wkd Hrs per	1.57	2.71	4.75	4.10

Surgical Day Care	1999/2000	TOH @ 25th Percentile	Change	% Change
Worked Hours	76,418	76,182	-235.7	-0.3%
Benefit Hours	12,610	12,571	-38.9	-0.3%
Total Paid Hours	89,028	88,753	-274.6	-0.3%
Total FTEs	45.66	45.51	-0.1	-0.3%
Visits	26,667	26,667		
Productivity: Wkd Hrs per Visit	2.87	2.86	-0.01	-0.3%
Peer Group Range (1999/2000)	**Minimum**	**Median**	**75th**	**Mean**
Productivity: Wkd Hrs per Visit	2.60	3.11	3.72	3.35

Endoscopy	1999/2000	TOH @ 25th Percentile	Change	% Change
Worked Hours	34,469	31,154	**-3,315**	-9.6%
Benefit Hours	3,926	3,548	**-378**	-9.6%
Total Paid Hours	38,395	34,703	**-3,692**	-9.6%
Total FTEs	19.69	17.80	**-1.9**	-9.6%
Visits	14,095	14,095		
Productivity: Wkd Hrs per Visit	2.45	2.21	**-0.24**	-9.6%
Peer Group Ranges (1999/2000)	**Minimum**	**Median**	**75th**	**Mean**
Productivity: Wkd Hrs per Visit	1.32	2.55	3.07	2.98

As can be seen the data suggests that medical day care and surgical day care services are quite efficient relative to their peers and there is little opportunity for improvement[94]. However, the data suggest an opportunity to improve productivity and reduce costs in Outpatient OR/PARR and Endoscopy. The data suggests that the hospital could reduce staffing by approximately 9 FTEs if it were to operate at the 25th percentile level of its peers. Again, because of potential limitations in the data and the limited time for analysis of these areas during this review, we suggest that the hospital target to achieve half of this potential reduction in staffing. Thus, based on the inter-hospital comparisons, our review in this study, and our experience in studying surgical services in hospitals across Canada we feel that although the hospital should strive to achieve the 25th percentile productivity level of 2.4 hrs/visit in its outpatient ORs and 2.2 hrs per visit in its endoscopy unit. However, for the purposes of this project, it should set as its target 3.3 hours per visit in its outpatient ORs and 2.33 hours per visit in its endoscopy unit. If it had been at these targets in 1999/00 it would have achieved a staffing reduction of approximately 4.5 FTEs and a saving of approximately $250,000 in outpatient ORs and $65,000 in endoscopy.

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[94] It should be noted that although there is only limited opportunity to improve labour productivity in surgical day care, the cost of non-drug supplies per procedure is $14.20 compared to the median of the peer hospitals of $6.43. There may be an opportunity to reduce the materials and supply costs of day surgery.

It is recommended that:

(49) The Vice President, Surgery should improve the efficiency of the outpatient ORs to approach a productivity level of 3.3 hrs/visit

(50) The Vice President, Surgery should improve the efficiency of the endoscopic service to approach a productivity level of 2.3 hrs per visit.

6.1.2.2 Special Care Units

ICU care can be categorized into two levels that are used to describe the differences in the care and resource requirements of patients in critical care.[95] [96] ICU patients require different resources and personnel (with different levels of training and expertise) based on how ill they are. Care for the sickest patients is considered Level 1 and usually involves intubation and ventilation and/or care for patients suffering from multi-system organ compromise. Care of less sick patients not requiring ventilation and usually suffering from single system compromise is considered Level 2 ICU Care. The ICUs at TOH, like their peers, provide both of these types of care. When determining staffing requirements of an ICU, it is important that patient acuity and related care requirements are considered. Not all of the patients in most ICUs require Level 1 type of care.

Based on information provided and onsite review, the capacity of the current critical care program appears to be as follows:

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[95] Critical Care Services and Personnel: Recommendations Based on a System of Categorization into Two Levels of Care American College of Critical Care Medicine of the Society of Critical Care Medicine. Critical Care Medicine 1999: 27:422-426

[96] Task Force on Guidelines, Society of Critical Care Medicine: Guidelines for categorization of services for the critically ill patient. Critical Care Medicine 1991; 19:279-285

General Campus

- 21 bed Critical Care Unit[97]
- 4 bed Coronary Care Unit[98]
- 4 bed Trauma Unit[99]
- 8 bed Neuro-Observation Unit[100]
- In addition to these 37 beds there are frequently 2-3 (as many as 7) ICU patients cared for by ICU staff in the PACU and occasionally 1-3 patients in the Emergency Department.
- (There are also up to 8 chronic ventilation patients in hospital at any given time receiving care on the inpatient units from nursing staff from these units.)

Civic Campus

- 18 bed Critical Care Unit[101]
- 5 bed Neuro-Observation Area[102]
- 6 bed Acute Monitoring Area[103]
- In addition to these 29 beds there are frequently 2-6 patients cared for by ICU staff in the PACU and occasionally 1-3 patients in the Emergency Department.

Operations: Patients admitted to the ICUs appear to be appropriate. The 24 hour APACHE scores demonstrate that admissions to the TOH ICU are appropriate. Peers noted in the table below also care for a mix of Level 1 and 2 patients.

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[97] Predominantly patients requiring Level 1 care but includes mix of patients requiring both Level 1 and 2 care.

[98] 8 bed capacity but only staffed for 4 patients requiring Level 2 care

[99] Patients requiring Level 2 care

[100] Patients requiring Level 2 care

[101] Predominantly patients requiring Level 1 care but includes mix of patients requiring both Level 1 and 2 care.

[102] Patients requiring Level 2 care or less.

[103] Medical patients

Exhibit 6.1.4
ICU Acuity

Indicator	TOH	UHN	Mt. Sinai
APACHE score measured within 24 hrs of admission to ICU	1999 - 18	General -19.2; Western - 18.2	22.84 (excludes all 24 hr. post op patients)
Actual Mortality	2000 – 24.5%	General-24.1%; Western – 25.3%	
Predicted Mortality(acuity as measured by this indicator has increased)	1997 -16.6% 1998 – 21.6% 1999 – 29.5%		

Source: TOH comparative analysis

- The very high occupancy rate in the Critical Care Units is interfering with the efficiency of the Operating Rooms as some elective cases are delayed to late in the morning until it is known that there will be a bed available in the ICU.
- The PACUs are being used to provide ICU care. The care provided in the PACU environment is definitively less optimal than that provided in the Intensive Care Units. At the time of the review there was only one sink in the General Campus PACU; there was no family waiting area, and there was constant activity with moving patients etc. At both campuses there is a predictable use of the PACU for surgical patients that require ICU beds.
- There has been significant challenge at both campuses with data collection on all Level 1 and Level 2 cases. What is required is an analysis of the resource allocation (i.e. staffing) based on acuity and patient mix (a workload measurement system). The Hospital has been developing a system and is encouraged to proceed with implementation.
- There is a significant problem with equipment and beds, especially at the General Campus. There are few proper ICU beds at the General Campus and they are coping with standard ward beds. This has resulted in back injuries for staff as well as less than optimal care for patients. Monitors at the General Campus are very old. There are 3 or 4 new and high quality large screen monitors at the Civic Campus. The remainder of the monitors are out of date. The physical layout at the General Campus is very poor and virtually all equipment is in need of replacement. The physical layout at the Civic is excellent and the beds are all fairly new ICU beds. Fourteen of the monitors at the Civic Campus should be replaced soon.

- In 1999/00 there were significant problems with recruiting staff for the Critical Care areas. There have been some aggressive strategies put into place to recruit and train ICU nurses. This resulted in very significant costs associated with this training and recruitment. With stability in the staff, the high costs of orientation hours should be reduced. Ongoing recruitment will necessitate some orientation costs. It should also be noted that there will always be a requirement for ongoing in-service education.
- The nurse staffing ratios in the Critical Care Unit is higher than those of peer hospitals. The hospital is using a one to one staffing ratio more often than may be necessary for the care requirements of its ICU patients. There are additional appropriate opportunities to use a 1:2 nurse to patient ratios in the ICU.
- In June 1999, 4 CCU beds were opened at the General Campus. Cardiology patients who had previously been cared for in the ICU were then cared for in the CCU. This likely resulted in an increase in the average acuity of ICU patients when the vacated beds were filled by non-cardiology patients.

Nursing Productivity

Nursing productivity is measured and compared as the total worked hours per patient day (hrs/ppd).

In 1999/00, the Heart Institute ICU used 94,250 worked staff hours to provide 3,511 patient days of care. The hrs/ppd for this area was 26.92 which is fewer hours than the 25th percentile of the peer group performance of 28.53 hr/ppd.

During 99/00 the ICU at the Riverside Campus had 199 patient days and 6,266 worked hours. This is 32.5 hours per patient day; significantly higher than the comparator hospitals. These hours are included in the 1999/00 analysis. With the closure of this unit, the critical care areas have already removed worked hours to achieve efficiencies.

The 1999/00 TOH performance is for the various CrCU is as follows:

- Combined Med/Surg ICU - Following internal correction to account for workload cared for in the PACU, the patient days are 12,422 and worked hours are 334,265. The productivity is 26.91 hrs/ppd compared to the 25th percentile of 23.05 hrs/ppd. If the unit achieved the 25th percentile performance level there could be a savings of 28.56 FTEs.

- Coronary ICU – The productivity for this area is very close to the 25th percentile performance level. TOH was operating at 15.85 hrs/ppd and the 25th percentile performance level is 15.08. If the unit achieved the 25th percentile level of performance there could be a staff reduction of fewer than 2 FTEs.

Based on our review and the comparisons with peer hospitals we recommend that the hospital adopt a productivity target for staffing the Intensive Care Units at the TOH of 24.5[104] worked hrs/ppd which is slightly above the median for the comparator hospitals. This performance level would have provided a decrease of 17.84 FTEs from the 99/00 level in the combined Med/Surg ICUs. (It should be noted that in 2000/01 the organization has already moved toward this level of productivity and has achieved some of this staff reduction). The reduction of high occupancy, and the consolidation of patients cared for in the PACUs to the ICUs and the development of appropriately sized and efficiently designed units at each campus are key enablers in the organization's ability to achieve this staffing level.

Based on our review and the comparisons with peer hospitals we recommend that the hospital adopt a productivity target for staffing the Coronary Care Unit of 15.00 hrs/ppd. This is the slightly lower than the 25th percentile level of the comparator hospitals. This performance level would have provided a decrease of 1.9 FTEs from the 99/00 staffing level in the Coronary Care Unit.

It is recommended that:

(51) The CEO should work with the MOH to ensure an appropriate number of ICU beds and adequate space for the delivery of intensive care services.

(52) The Hospital should replace the beds in the ICU with new/appropriate critical care beds.

(53) The Clinical Director should reduce staffing levels in the ICUs to achieve a productivity level of 24.5 worked hours per patient day.

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[104] The productivity target relates to UPP and M&O nursing services staff. It does not include nurse educators (who should be in the Inservice Education functional centre), therapies or support staff. It would include charge nurses and unit clerks.

(54) The Clinical Director should reduce staffing level in the CCU to achieve a productivity level of 15.00 worked hours per patient day.

6.1.2.3 Birthing Program

The redevelopment of the Obstetrics program was completed in June, 1999. The distribution of services across the hospital is as follows:

- Primary and secondary care at the Civic and General Campuses
- Tertiary services at the General Campus
- Level III nursery at the General Campus (24 weeks and above)
- The Special Care Nursery at the Civic providing enhanced Level II newborn care (32 weeks and above[105])
- The SCN at the Civic will provide ventilator care for up to 36 hours. An infant that is expected to require ventilation for more than 36 hours is transferred to the NICU at the General campus
- IVF program at the Civic Campus providing monitoring in a high risk approach in early pregnancy
- Based on TOH 2000/2001 Operating Plan in 99/00 there were an average of 88 beds in operation and 101 bassinets (including the SCN at the Civic Campus) and 25 NICU bassinets
- Patient days for 99/00 were 28,018 up slightly from 1998/99. There has been no significant increase in patient volume associated with the closing of the Grace. HSRC directives were based on 100% of the Grace volume going to the Queensway Carlton Hospital.
- ALOS for Obstetrics in 1999/00 was 3.01 days using CIHI reported data (excluding deaths, transfers and sign-outs)
- NICU patient days were 7,193 for 99/00. ALOS was 6.63[106]

Operations The following are some unique characteristics of the birthing program at The Ottawa Hospital:

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[105] An exception may be made for infants 28 weeks and above if the mother is a patient of a Civic campus physician.

[106] TOH 2000/2001 Operating Plan, Form 9 – Inpatient Service Statistics

- The General Campus triages approximately 490-510 patients per month with only approximately 300 going on to active labour. In these analyses the patients who do not go on to active labor (approximately 200 or 40% of the patients presenting at the program) are not included in the work load for the program as no patient days are registered for these patients. There may be advantage to capturing this workload and the resources used for it as part of the outpatient program, so that the true workload and resource utilization of the inpatient area may be reflected. However, when comparing TOH with peer hospitals, we assume that they too experience patients that do not go on to active labour who are not included in their measurement of workload.
- At the General Campus on the Birthing Program 8W nursing unit there have been 6 flex beds filled with medical patients with a high acuity since June 1999. This has not appeared to cause a problem for the Birthing Program. Birthing program staff provide care to these patients. The hospital might reconsider this assignment of acute medical patients to an obstetrics unit; perhaps ALC patients requiring mostly supportive care would be more appropriate.
- In 99/00 there was some difficulty related to support in the community for new mothers. Public Health had closed some post-partum drop-ins due to staff shortages and it was difficult to meet the CCAC criteria to have home visits. In some cases this impacted on length of stay.
- Obstetrical coverage is considered stable. A working arrangement of medical staff has ensured few if any difficulties with in-house neo-natal coverage across campuses, night coverage, etc. The Hospital has opened a new clinic to try to improve access to physicians.
- There are fewer resident medical staff and a perceived imbalance of residents across the campuses. This is a concern within the Birthing program.
- There is a positive working relationship between the nurseries at both campuses. As noted above, the Civic Campus has an enhanced special care unit for babies more than 28 weeks old. The condition of babies requiring ventilation is closely monitored and those expected to require ventilation for more than 36 hours are transferred to the NICU at the General campus at the earliest opportunity. At the Civic Campus, there are

approximately 25 beds with 1:1 or 1:2 nurse to patient ratio at a cost of approximately $3 million. Costs for this nursery are within the birthing program budget, not the Neonatal Intensive Care budget. The hospital suggests that this could be contributing to the differences in comparison of the birthing program to its peers. However, if patients who require Level III care are transferred appropriately to the NICU at the General Campus, than patients retained at the General Nursery are likely similar to those at the peer hospitals. Alternatively, perhaps more patients should be transferred from the Civic nursery to the General NICU. With intra-organizational access to the NICU at the General there should be very few patients at the Civic nursery who require 1:1 nursing for an extended period of time.

- As the organization explores opportunities to improve the efficiency of the NICU and SCN, it should be done within the context of the birthing program as a whole, the enhanced quality and efficiency achieved from consolidating tertiary care at a single campus and the family-centered care philosophy of the program.

Nursing Productivity

Nursing productivity is measured and compared as the total worked hours per patient day (hrs/ppd).

The Program is committed to 1:1 nursing for mothers in active labor and appropriate post-partum staffing to achieve 1 nurse to each 4 mother/infant dyad. This approach to staffing in L&D follows the recommendation of the Report of the Caesarean Section Working Group of the Ontario Women's Health Council – Attaining and Maintaining Best Practices in the Use of Caesarean Sections.

99/00 TOH performance for the Birthing Program was 9.78 hrs/ppd. This is above the 25th percentile performance level of the comparator hospitals which is at 9.26 hrs/ppd. If the hospital had operated at this level it would have been able to reduce its staffing by approximately 16 FTEs.

The 1990/00 TOH performance for the Neonatal ICU was 16.4 hrs/ppd. The 25th percentile of the comparator hospitals was 14.23 hrs/ppd. If the hospital had operated at this level it would have been able to reduce staffing by 9 FTEs.

As noted above, any opportunities for efficiencies for the Birthing Program should be examined for the program as whole. It should also be noted that any efficiencies in the

NICU will likely require some renovation to remove a wall to allow for more efficient staffing.

Recommended productivity targets for the Birthing Program have been set to try to provide the greatest flexibility for the program to achieve savings.

Based on our review and the comparisons with peer hospitals we recommend that the hospital adopt a productivity target 15.45 hrs/pd for staffing the Neonatal Intensive Care Units at the TOH which is above the 25th percentile of the comparator hospitals. This would provide a reduction in staffing of 4 FTEs and savings of approximately $290,000 from staffing levels in 1999/00. We also recommend that the hospital adopt a productivity target of 9.56 hrs/pd for staffing of the Birthing Program. This is the median level of the comparator hospitals. This would provide a reduction in staffing of 7 FTEs and savings of approximately $460,000 from staffing levels in 1999/00

It is recommended that:

(55) The Vice President, Obstetrics and Gynecology and the Clinical Director of the Birthing Program should restructure the Birthing Program as whole to achieve productivity levels of 15.45 hrs/pd for the NICU and 9.56 hrs/pd for the rest of the birthing program.

6.1.2.4 Operating Rooms

Currently, TOH has 43 operating rooms (OR's). At the Civic Campus there are 16 operating rooms in the main theatre, 2 C-section rooms and 3 OR's at the Heart Institute. There are 11 OR's and 2 C-section rooms at the General Campus. As of December 1999 there were 9 operating rooms at the Riverside Campus. In the main OR suite at the Riverside there are 5 OR's and 1 room for Cystoscopy. (It is anticipated that the 6th OR at the Riverside will have to be updated to handle the projected volume for day surgery to be directed to that campus.) Additionally there are 3 rooms dedicated for Ophthamology.

Operations

Some key issues for the Operating Rooms include:

- Surgical bed availability - everyday the activity of finding beds for same day admit patients requires 1 to 4 hours of managers' time

- Capital equipment acquisition - need for technology to address changes in practice as well as increases in volume (daily search for stretchers)
- From the perspective of the ORs there appears to be a need to improve support from SPD:
  - Lack of appropriate communication channel between SPD and OR at all campuses
  - Variance in policies and processes for instrument processing among the campuses (e.g. Flashing of instruments, etc)
  - Case supply and assembly (e.g. 1500 plus preference cards at General Campus may be contributing to instrument issues)
  - Concerns expressed regarding OR involvement in the process of product evaluation
  - Perceived lack of preventative maintenance - wheel chairs and stretchers missing and broken therefore delays to begin surgery
- $40,000 in surgical scrubs have been lost
- Committee activity for managers in the OR could be reviewed to ensure the most appropriate involvement of managers

Nursing Productivity

Nursing productivity in the Ors is measured and compared as the total worked hours per case (hrs/case).

Based on the comparisons with the peer hospitals, in 1999/00 the ORs at TOH appear to have been extremely efficient. The productivity of the Operating Rooms at TOH was 7.86 hrs/case. It was the most efficient of the peer hospitals. The next lowest comparator hospital's productivity was 8.34 hours per case[107]. The OR's are using a mix of RN and ORT. Staffing for each room is at a ratio of 2.5 staff per room which is common practice. We do not feel that there are issues related to quality of nursing care emanating from the hospital's nursing productivity. Thus we feel that the hospital should maintain this level of productivity.

The performance for the Cardiac OR's (assumed to be the Heart Institute) was 10.49 hours/case. The 25th percentile of the comparator hospitals for Functional Centre 712604200: Cardiac ORs was 5.59 hours/case[108]. A review was not undertaken in the HI so it is not possible to comment on the operational characteristics that may explain this variance from the performance of peer hospitals. The opportunity here if the Cardiac OR achieved the Cardiac OR benchmark would be approximately 26 FTEs. This saving has been assigned to the Heart Institute's portion of the potential savings for The Ottawa Hospital.

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[107] Like many of the comparisons, we are unable to control for the acuity of the cases in the ORs.

6.1.2.5 Post Anesthetic Recovery Rooms

The capacity for PACU at TOH is as follows:

- General Campus PACU
- 18 beds in total
- 3-6 beds for ICU;
- 12-15 beds that are usually changed over 4 times daily for approximately 45 patients/day

Civic Campus PACU

- 26 beds in total
- satellite ICU
- 9 –11 beds for fast flow patients that are usually changed 4 times daily, for approximately 40 patients/day
- 11-12 beds for inpatient and/or emergency patients with 2 changes/day

Riverside Campus PACU

- 7-10 beds in total

The visits recorded for all campuses in 99/00 were 33,347

Operations

On-campus interviews suggested the following operational issues:

- At both campuses there is a predictable use of the PACU for surgical services that require Critical Care beds (It has been recognized for years that there are insufficient Critical Care Unit beds for these patients so the surgical services plan to admit these patients to the PACU for 12 to as long as 48 hours.) These patients' care may be directed by the Anaesthetist and/or the Surgical Service and are cared for by the PACU staff. If the Intensivist is consulted and asked to assume responsibility for the care of the patient, they are then included in the ICU admission statistics and cared for by ICU staff

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[108] It should be noted that relatively few of the comparators used this functional centre to report surgical volume.

- In addition to the above, there are a number of patient overnight stays in the PACU These are attributed to the following:
  - physician practice
  - CCU will not admit patients on ventilators or with arterial lines
  - All patients who have a cardiac arrest go to the PACU
- The high occupancy rates in the surgical units impacts the PACU and PACU overtime is attributed to patients who cannot be transferred to an in-patient bed when they have met PACU discharge criteria

Nursing Productivity

Nursing productivity is measured and compared as the total worked hours per visit (hrs/visit).

In 1999/00 productivity for the PACUs was 3.18 hrs/visit. This is slightly higher than the 25th percentile of the comparator hospitals of 2.99 hrs/visit. Although there is an opportunity of saving approximately 3.7 FTEs, most of this is likely attributable to the overnight patient stays which result from the high occupancy rate of the hospital. The saving could be achieved if patients were moved out of the PACU into a bed in the ICU or on the units.

The 1999/00 performance for the Cardiac PACU was 12.71 hrs/visit and is not included in the performance target noted above. There is no specific comparative information available for this functional centre.

Based on our review of the area and the comparison with peer hospitals we recommend that the hospital maintain its current staffing of 3.18 hrs/visit. This will result in no reduction in FTEs from the 99/00 level. However, if the number of overnight and extended stays in the PAR are reduced, consideration should be given to reducing staffing to approximately 3.0 hrs/visit which would provide for a reduction of approximately 3.0 FTEs.

It is recommended that:

(56) The Vice President, Surgery and the Clinical Directors for the Surgery Portfolio should reduce, if not eliminate the number of overnight stays in the PACU.

(57) The Vice President, Surgery and the Clinical Directors for the Surgery Portfolio should eliminate its dependence on the PACU as a site for ICU and CCU care.

6.1.2.6 Psychiatry

The Mental Health Program has 35 beds available for use at the Civic Campus and 41 beds available at the General Campus. The average occupancy is 80% at the Civic Campus and 100% at the General Campus[109]. ALOS for the Civic is 13.6 days and 17.5 days at the General.

Operations

- Working to incorporate activity from the closing of the Royal Ottawa Emergency for psychiatric patients will impact inpatient service delivery.
- Physical layout is an issue at both campuses. There is high use of sitters related to the lack of security measures (locked area, alarms, etc) and elopement opportunities for patients.
- The patient population is changing and includes more geriatric psychiatric patients (frail elderly) with higher level of personal care needs
- Staff are long term and burning out and high level of turnover is anticipated.

Nursing Productivity

Nursing productivity is measured and compared as the total worked hours per patient day (hrs/ppd).

In 1999/00 productivity in Psychiatry was 5.72 hrs/ppd. This is slightly better than the 25th percentile of the comparator hospitals of 5.74 hrs/ppd. The staffing appears appropriate. There are issues around variation in shift length and start times across campuses.

We recommend that nursing in the Mental Health program should maintain its current level of productivity. Thus we recommend a productivity target for nursing in the Mental

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[109] 2000 Profile and Planning Guide for Accreditation

Health program of 5.72 hrs/ppd. This would have resulted in no reduction of FTEs from the 99/00 staffing level.

It is recommended that:

(58) The Clinical Directors for Mental Health and the Vice President Facilities Management should work together identify cost effective ways to renovate facilities that will reduce the need for sitters.

6.1.3 Emergency

The Civic and General Campuses have full service, tertiary care emergency departments operating 24 hours per day and the Riverside Campus has an urgent care centre that operates from 0700-2300. In 1999/00 all campuses taken together had 139,244 visits. It was anticipated that the renovations of April 1999 would allow the Civic Campus to accommodate 60,000 visits, the General Campus 53,000 visits and the Riverside campus 45,000.

Operations

There is a considerable back-up in the Emergency Department of patients who were seen in the ED and require admission to the hospital. Large numbers of these admitted patients reside in the ED for extended periods while waiting for access to an inpatient bed.

Also the hospital has a practice of using the Emergency Department for "holding" patients who have been discharged from other areas of the hospital such as day surgery or nuclear medicine or for use as drop off or waiting area @ 1700 hrs. for patients waiting for SANDS (private ambulance service that will not go to unit to transfer patients). This is adding to the congestion and cost of the ER.

As a consequence, the physical plants of the Emergency Departments at both the hospital's Civic and General campuses are inadequate to meet the demands of patient services that are being placed upon them resulting in overcrowded Emergency Departments, with adverse consequences for both physicians and nurses.

The inadequate space, poor morale of health care providers and a general lack of resources have resulted in continued deterioration in the quality of care as perceived by care providers. This downward spiral results in increasing costs of care delivery secondary to the need to provide overtime funding for nurses, pay for agency fees in order to ensure sufficient numbers of nurses, and to compensate for the inherent inefficiencies of delivering inpatient care in these Emergency Departments.

There are diminishing physician consultant resources in the hospital, particularly with the recently completed PAIRO negotiations that result in a decrease in the number of house-staff hours in the hospital. As well, the Emergency Department is impacted by the changing role of the family physicians in the Ottawa Health Care system as they become increasingly distant from acute in-hospital care.

It appears there is difficulty in accessing Home Care resources to meet the needs of ED patients. These difficulties in accessing home care are an impediment to discharging patients from the Emergency Department to the patient's home. Also, patients who cannot get home care are returning to the Emergency Department on multiple occasions for services such as intravenous antibiotics.

It is of note that the visit volumes at the 16-hour Acute Care Medical Centre now exceed the former 24-hour-per-day Emergency Department at the Riverside Campus. When volumes began to increase at the General Campus, after the re-designation of the unit at the Riverside from an ER to an ACMC, the hospital initiated an advertising campaign to clarify the new role of the ACMC in an attempt to redirect patient volume away from the General ER. It may be that the advertising inadvertently served to promote the ACMC and not only redirect patients from use of the General ER in favour of the Riverside ACMC but it may have also attracted new patients who had not been using ERs for their primary care. Based on our experience elsewhere and our review of the ACMC it appears that there has been an increase in the number of patients seeking primary care services at the ACMC.

The cost of providing care at the Acute Care Medical Centre at the Riverside is relatively high considering the relatively low acuity in the area. Once the facility is open, there is a need to provide a minimum level of nursing staff and supporting diagnostic and therapeutic services to care for patients at the ACMC. However, the hospital could significantly reduce its costs by providing care for these patients in the ED of an acute care hospital rather than in the ACMC. It has been well demonstrated in the literature that the marginal cost of providing care to these patients in the general hospital environment is virtually negligible[110]. Thus, there would be significant efficiencies resulting in cost savings from transferring this operation to Emergency Departments at the Civic and General Campuses. Also, the resources currently diverted to the Riverside Campus ACMC unit would be available at the EDs to address the needs of emergent and urgent patients in a more timely fashion than possible currently. Minimally the hospital should take efforts to contain both the number of patient visits and the cost of supporting this new, primary care initiative at the Riverside campus.

Although there is an Emergency Department tracking system in place at both campuses that allows the department to have a picture of patient throughput time, more accurate, reproducible, and reportable data on issues such as lab turnaround time, as well as radiology performance time, etc. is required.

There are, almost by definition, inherent inefficiencies in the teaching hospital model. This oftentimes results in patients waiting several hours between the time that a consultation is requested and a definitive admit or discharge decision is made by a consulting service.

House staff are ordering investigations, in the Emergency Department, that are really only germane to the in-patient portion of the episode of care. This is because of the knowledge that the test will be drawn more quickly, and the specimens processed more quickly than they might be on in-patient wards.

ED Productivity

Productivity is measured and compared as the total worked hours per visit (hrs/visit).

In 1999/00 productivity for the Emergency program was 1.98 hrs/visit. This is lower than the 25th percentile of the comparator hospitals, which is 2.14 hrs/visit. This might suggest the area has been operating at an aggressive productivity level and resources may be strained. However, the average acuity of visits at the Riverside Campus is less than one would expect in an ER and likely is helping the hospital maintain lower hours per visit. Almost 30% of the visit volume recorded by the hospital as ER visits are patient visits to the ACMC at the Riverside. ACMC patient visits at the Riverside are, by design, lower acuity patients with less complex care requirements. These patients require fewer hours per visit than the average patients at the ERs of the General and Civic campus and at the ERs of the comparator hospitals.

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[110] Williams, Robert M., "The Costs of Visits to Emergency Departments", New England Journal of Medicine, March 7, 1996. Pages 642-646.

We recommend that the Emergency Departments and the ACMC at TOH maintain their current combined productivity of 1.98 hrs/visit. This would have resulted in no decrease of FTEs from the 99/00 levels.

It is recommended that:

(59) The CEO and Vice President responsible for the ED should expedite the redevelopment of the Emergency Departments at the Civic and the General Campuses.

(60) The Vice President responsible for the ED should develop a long-term strategy to contain or reduce the community's reliance on and the costs of the Acute Care Medical Centre.

(61) The Clinical Director and Medical Director for the ED should enhance the Emergency Department Tracking System.

(62) The Clinical Director and Medical Director for the ED should work with the VP Medical Affairs to reduce the time between a consultation and a definitive decision to admit or discharge.

(63) The CEO should develop an alternative to using the ED as a venue for holding patients prior to release or transfer from the hospital

(64) The Vice President and the Clinical Director for the ED should eliminate the practice of holding patients in the Emergency Departments

6.1.4 Nursing Administration

The most challenging aspect for nursing administration has been to create a new nursing culture within the Ottawa Hospital. This new culture is benefiting from the best of each of the campuses while developing and strengthening relationships with organizations externally, such as with the universities, community service providers such as CCACs and the health care networks in the Ottawa region.

In 99/00 there were different philosophical approaches to managing staffing and care across all campuses. These differences are still prevalent although some change has been noted.

The organization has worked to develop nursing professional practice. A Nursing Professional Practice Plan is now in place and is moving forward in an effective way. There is a new committee structure in place and the vision, mission and objectives have been finalized. Front line staff are beginning to express a sense that they have a route to actively participate in decision making. The nursing research aspect has been strengthened. The creation of the Retention and Recruitment Task Force and implementation of its recommendations in June of 1999 was a key step and signal regarding the Hospital's commitment to improve retention and enhance recruitment.

High occupancy impacts the ability of nurses to benefit from professional development activities inside or outside the hospital. Limited infrastructure resources are available to the Chief Nursing Officer to support such activity.

The amount of simultaneous change has been significant in its impact on nurses. The amount of change makes it difficult to implement change. In 99/00 sick time was high and the organization used significant amounts of overtime. Since 99/00, the organization has used an organized approach to decrease the use of overtime. All of this has created serious challenges for nursing administration.

Key operational issues regarding nursing administration were discussed in the common findings across the organization noted earlier in section 6.1.1.1.

Additionally the following was noted:

- TOH maintains supervisory nursing positions on the off shifts. These are the Clinical Nurse Advisor and Nursing Coordinator roles.
- ESP clerks used for scheduling in the various programs roll up under the Nursing Administration functional centre and not in the program areas. Issues with the variance in staff replacement practices were noted earlier.

Performance and Staffing

The 1999/2000 MIS Trial Balance File reported 93.83 FTEs in nursing administration[111]. Comparisons of performance with peer hospitals based on MIS Trail Balance data are difficult due to several factors such as:

- Inconsistencies in how hospitals report hours within the Nursing administration functional centre
- Variations in how services are provided (decentralized versus centralized) and reported (decentralized and centralized) across hospitals
- In 99/00, as the organization was newly merging, the inconsistencies in the reporting of nursing administration hours was recognized internally and as the organization began to align practices, policies, model of care, etc. these administration hours should be aligned appropriately. Alignment of appropriate nursing administrative functions within the programmatic structure should be considered.

Because of these problems inherent in the MIS trial balance data for the Ottawa Hospital, the hospital reviewed its submission and made corrections to make its data more consistent with the intent of the MIS guidelines and hopefully more comparable with peer hospitals.

For purposes of performance comparisons with peer hospitals, performance of nursing administration is measured and compared as the net cost of nursing administration as a % of the total hospital operating cost. This takes into account the size and complexity of the hospital and its patient care processes.

TOH 1999/2000 the net cost of Nursing Administration was 1.46% of the total hospital operating cost. The 25th percentile performance is 1.15%. Nursing Administration at the TOH is the equivalent of approximately 20 to 22.0 FTEs above the 25th percentile performance level of the peer group[112]. It should be noted that the analysis of nursing administration includes consideration of staff and functional centres that are clinically focused:

- 0.15 FTEs that were allocated from inactive cost centres

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[111] The hospital reports that 21.82 of these FTE's were Heart Institute staff.

[112] If the non-labour costs in the nursing administration functional centres are fixed at the TOH's 1999/00 levels of expenditures, then TOH would need to reduce its staffing in these functional centres by 22 FTEs to achieve the 1.15% performance level.

- 1.04 Anesthesia nurse
- 2.13 IV therapy
- 3.65 FTEs that are related to transplant coordination
- 1.19 FTEs for enterostomal therapy

These clinically focussed FTEs total 8.16. These functional centres were 'rolled up' into nursing administration[113][114] for the purposes of this project. As a result, these staff likely are included in the staffing statistics for the comparator hospitals.

Additionally, there are 14.99 FTEs within the Nursing Administration functional centre are Palliative Care staff. MIS Guidelines also require all organizations to report Palliative Care in this functional centre as the MOHLTC has not identified a functional centre as yet. Once again we have assumed that the peer hospitals, like TOH, have followed the MIS guidelines and the Ministry's directions.

If the 1.04 anaesthesia nurses are excluded from the MIS count of nursing administration staff, then the analysis would suggest a potential savings opportunity of 19 to 21 FTEs if TOH were to staff at the 25th percentile performance level.

However, nursing administration at TOH is challenged by the need to provide leadership to and manage nursing staff on 3 campuses. Based on our analysis of the staffing requirements of nursing administration at TOH, we feel that the hospital should be able to achieve at least half of the staffing reduction suggested by the 25th percentile level of its peer hospitals. Thus we recommend that a target for the net cost of Nursing Administration at TOH should be set at 1.32% of the total hospital operating cost. This would result in a decrease of

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[113] The MIS functional centres 'rolled up' into nursing administration for comparison purposes in this study are:

712051000	Nursing Administration
712052000	Clinical Resources
712052020	IV Therapy
712052030	Palliative Care Team
712052040	Enterostomal Therapy (centralized)
712052060	Transplant Coordination/Organ Procure
712052092	Transplant Coordination/Organ Procure
712052094	Palliative Care
712060000	Program Management
712070000	Medical Resources
712072000	Medical Rsrces - Non-Psych

[114] The only exception is the anaesthesia nurse who might be assigned more appropriately to another functional centre.

10.0 FTES and savings of $660,000 from the 1999/00 staffing levels.

It is recommended that

(65) The Vice President Nursing and the Chief Nursing Officer should realign and eliminate staff in nursing administration functional centres to achieve the recommended performance target for nursing administration of a net cost of 1.32% of the total cost of hospital operations.

(66) The CEO should review and ensure an adequate level of infrastructure support for the Chief Nursing Officer to facilitate the development of the Nursing Practice Plan.

6.1.5 Total Savings Opportunities for Nursing Services

Based on the specific department reviews, we estimate that there was a savings opportunity in inpatient nursing services and nursing administration of 40 FTEs or approximately $2.7 million from the hospital's spending level in 1990/91. Additionally we estimate that there was an opportunity to reduce staffing by 17 FTEs and achieve savings of approximately $1 million in the hospitals outpatient clinics and day/night care areas. Further, there may have been an opportunity to reduce staffing in the Heart Institute's nursing services by as many as 37 FTEs for a further saving of $2.5 million from the TOH's operating costs in 1999/00. Because governance of the Heart Institute has been separated from TOH, the HI nursing areas were not reviewed and as a result these savings opportunities were not confirmed through observation or analysis. They are based only on the comparisons with hospitals chosen as peer comparators for TOH.

	Savings @ Target	
Functional Centre	**Reduction in FTEs**	**Annual $ Change**
712300000 MERGED Medical/Surgical	-	$0
712403000 ICU - Combined Med/Surg	-17.84	-$1,188,997
712404400 ICU - Coronary Care (Med)	-1.89	-$133,881
712406100 ICU - Neuro	0.00	$0
712405000 ICU - Neonatal	-3.97	-$286,767
712500000 Birthing Program	-6.84	-$457,869
712600000 Operating Rooms	0.00	$0
712650000 Post-Anesthetic Recovery Rooms	0.00	$0
712750000 Psychiatry	0.00	$0
713100000 Emergency	0.00	$0
712051000 Nursing Administration	-10.00	-$661,275
Inpatient Subtotal	-40.54	-$1,406,239
713500000 Combined Clinics	-12.90	-$754,779
713401000 Medical Day Care	0.00	$0
713402500 Outpatient ORs	-3.66	-$248,124
713402000 Surgical Day Care	0.00	$0
713405500 Endoscopy	-0.95	-$65,021
Outpatient Subtotal	-17.51	-$1,047,718
THE OTTAWA HOSPITAL	**-58.05**	**-$2,453,957**
Heart Institute		
712604200 Cardiac O.R.	-26.18	-$1,683,655
712404200 ICU - Cardiac (Surgical)	0.00	$0
712654200 Cardiac Recovery Rooms	0.00	$0
712100000 Medical Inpatient Services	-11.10	-$798,309
712200000 Surgical Inpatient Services		
THE HEART INSTITUTE	**-37.28**	**-$2,481,964**
TOTAL POTENTIAL SAVINGS IN 1999/00	**-95.33**	**-$4,935,922**

6.2 Diagnostic & Therapeutic Services

6.2.1 Therapeutic Services

The consultants' review of the initial data provided by the hospital did not indicate significant opportunities in the therapeutic areas. Therefore, these departments were not visited nor were there any observations of the facilities, equipment or service delivery. However, a joint meeting was held with the leaders of the service areas to discuss issues. Overall, the hospital is achieving productivity levels comparable to its peers.

Working within a program management structure is often challenging for therapists. Although working within a program, the therapist will be responding to the needs of patients on several different nursing units. As a result, therapists report that program management has increased time spent in the decision-making processes as they have a number of managers to interact with. As well, there are often competing interests among units within the program. Also for the service as a whole, there is also no longer the ability to move staff as easily from one program to another to deal with fluctuating workload across the organization.

It should be noted that changes in clinical practice often cause changes in the workload of allied health staff. But staffing levels have not necessarily been adjusted to reflect the change in the allied health service workload. One example cited is a 10% increase in the number of patients receiving dialysis with the same level of clinical nutrition services for each patient. However, there was no compensating increase in staffing in clinical nutrition; nor was there any attempt to restructure the approach to service delivery. The program seemed to expect clinical nutrition staff to accommodate the increased workload through work intensification. The service leaders are often not consulted or consulted after the fact etc. when new or changed in clinical practice or service volume are being planned. If the new or changed workload is to be accommodated, it will be important to consult service leaders prior to implementing the new practices or expanding patient volume.

The chiefs of services identified an issue with the support received from Human Resources Department. There is a very limited supply of therapists in many disciplines. If the hospital is to be successful in recruiting new staff it will need to be able to act quickly when desirable candidates are identified. However, the hospital's recruitment and selection processes were not timely and often candidates for positions have been lost. Concern was also expressed regarding information management around vacation, seniority, pay increments, etc.

Most chiefs of service carry a caseload as well as their administrative responsibilities and find this often overwhelming. All reported difficulty in meeting the organization's expectations with respect to supporting performance appraisals of therapists with program managers, and working on the education, quality or research activities.

6.2.1.1 Clinical Nutrition

Clinical nutrition provides support for patient foodservices, clinical nutrition care, revenue-generating services, professional education and research

Productivity is measured and compared as the total worked hours per attendance. TOH performance in 1999/00 was 1.19 hrs/attendance. This is the same as the 25th percentile performance level of the peer group.

6.2.1.2 Physiotherapy

Physiotherapy provides support to 22 clinical services. Its is most utilized by Orthopedic Surgery, General Internal Medicine, Neurology and General Surgery. A mixture of inpatient and outpatient care is provided, with the majority of the service delivery being outpatient.

Operational issues identified by the hospital include:

- Although the hospitals have been merged since 1998, only now (2000/01) is there an attempt to ensure service consistency and sharing of staff across campuses. Staff have had little or no time for orientation to other campuses because of case loads.
- Recruitment and retention are an issue for this discipline. The managers report that the Civic Campus has had a higher turnover and there is less experienced staff at this campus.
- The organization is competing in the marketplace and having difficulty recruiting. Managers report that the Hospital pays at a lower rate than other providers and staff are leaving for a better quality of work life and higher pay.

Productivity is measured and compared as the total worked hours per attendance. TOH performance in 1999/00 was 0.792 hrs/attendance. This is below the 25th percentile performance level of the peer group.

6.2.1.3 Occupational Therapy

Occupational Therapy (OT) services are provided to the Geriatric Assessment Unit, the Pre-admission Units, the Psychiatric Day Hospital and the Outpatient Psychiatric Program. Other outpatient OT services are being consolidated at the Riverside Campus.

The service managers reported that waiting lists have increased and as a result individuals are not being referred because it takes too long for response by the service.

Productivity is measured and compared as the total worked hours per attendance. TOH performance in 1999/00 was 1.2571 hrs/attendance. This is almost the same as the 25th percentile performance level of 1.2404 hrs/attendance of the peer group.

6.2.1.4 Speech/Language Pathology

Services are provided on an inpatient and outpatient basis at the Civic and General Campuses. Services are also provided at the Ottawa Regional Cancer Clinic in conjunction with scheduled appointments with the otolaryngologist and/or radiation oncologist.

The hospital reported the following operating characteristics of this service:

- Swallowing problems are about 70-80% of the inpatient workload. This has increased the workload of the therapists.
- As noted above services are provided to the ORCC.
- Support is also provided to the Regional Geriatric Assessment program with an average work content per service of 1.4 hrs/attendance

Productivity is measured and compared as the total worked hours per attendance. After data revisions received from the Hospital, TOH productivity in 1999/00 was determined to be 1.794 hrs/attendance. This is above the 25th percentile performance level of 1.2190 hrs/attendance of the peer group. This represents a potential saving of approximately 2.8 FTEs and $175,000. This saving opportunity could not be confirmed through on-site observation. The hospital should investigate the opportunity to achieve savings in this area.

6.2.1.5 Audiology

This service provides diagnostic, counseling and rehabilitation services for patients with hearing based communication disorders. Services are provided for inpatients and outpatients at the General and Civic Campus. About 98% of the activity in the service is outpatient activity. The hospital reports that there has been growth in a number of the programs such as the Tinnitus program and Cochlear implants.

Productivity is measured and compared as the total worked hours per attendance. TOH performance in 1999/00 was 2.21 hrs/attendance. This is above the 25th percentile performance level of 1.30 hrs/attendance of the peer group. This represents a difference of approximately 4.6 FTEs and approximately $270,000. The productivity gap may be accounted for by increased resources to support cochlear implant activity without a matching workload. This saving opportunity could not be confirmed through on-site observation. The hospital should investigate the opportunity to achieve savings in this area.

6.2.1.6 Social Work

The full range of social work services are provided at the General and Civic Campuses. Social work is also responsible for Discharge Planning. Services are provided for the inpatient areas, emergency and some outpatient activity such as the Pre-Admission clinics.

The hospital reported the following operating characteristics of this service:

- There are tremendous external pressures in the Ottawa region with a lack of chronic and long term care beds for placement. The CCACs have not been able to meet the Hospital's demand for services. Also, there is competition for the chronic and long-term care beds available between the placements for residents in the community and the placements for Hospital patients. Under CCAC policies, placements from the community will often take precedence over placements from the hospital.
- There is a Discharge Planning Coordinator on each campus to facilitate tough discharges, assist in enforcing discharge policies, provide data on ALC and co-payment, coordinate discharge rounds and orient new staff.
- The inpatient campuses have historically had different approaches to providing social work coverage. At the General Campus, therapists cover patients within a service/program regardless of where the patient is. At the Civic Campus, therapists are assigned to a floor or group of units regardless of the patients that are there. There has been a higher rate of turnover of therapists at the General Campus
- Care maps are working in areas where social workers are involved early in the care process so that patient is ready for discharge as soon as cleared by the physician.
- Social work is very aware of the organizational pressure of ALC patients. The service states that when the Hospital reaches 127 ALC patients it is effectively "paralyzed".

Productivity is measured and compared as the total worked hours per attendance.

TOH performance in 1999/00 was 1.44 hrs/attendance. This is the same as the 25th percentile performance level of the peer group.

With the Hospital's issues of high occupancy and length of stay there may be merit in examining this staffing level to ensure adequate support for the critical function of discharge planning.

6.2.1.7 Psychology

Psychology services are offered on an inpatient and outpatient basis and include clinical psychology, neuropsychology, health psychology, and perinatal services. Services are also available on a half time basis at the Heart Institute.

The hospital reported the following operating characteristics of this service:

- The number of referrals to the service has increased as the staffing has decreased. This has resulted in long waits and no service provided to medical or cardiology units.
- They are consulted for more complex cases to assist with diagnosis

Productivity is measured and compared as the total worked hours per attendance. TOH performance in 1999/00 was 1.86 hrs/attendance. This is less time per attendance than the 25th percentile performance level of the peer group of 2.55 hrs/attendance.

6.2.1.8 Respiratory Therapy

Respiratory therapy support is provided in the Operating Room, Special Care Units, Emergency, and Inpatient care area. It also provides a diagnostic service.

No on-campus review was conducted following the initial data review as no material savings opportunity could be identified. During on-campus reviews in all the clinical areas, no mention was made of an issue with Respiratory Therapy support.

Productivity is measured and compared as the total worked hours per patient care workload units.

This service performed 969,641 procedures for a workload unit total of 8,618,323 units. TOH performance in 1999/00 was 0.0194 hrs/workload unit. This is only slightly above the 25th percentile performance level of the peer group of 0.0189 hrs/workload unit.

6.3 Diagnostic & Therapeutic Services

6.3.1 Clinical Laboratories

The planning for TOH's Laboratory Services is currently within the context of the Eastern Ontario Regional Laboratory (EORL) initiative. Including TOH, 13 hospitals and the private sector are working together to implement an integrated laboratory system, with a single regional laboratory to be located at TOH's General Campus and site (core) laboratories operating at all other facilities.

While the scope of this operational review did not encompass a review of the EORL project, we offer the following findings related to TOH:

- The project has identified that TOH would realize $3.1 million in operational savings[115] (approximately 13% of 1999/2000 gross operating costs[116]). The EORL operating costs projections exclude impacts of depreciation (equipment will be leased) and medical staff operating costs, which may offset some of the projected savings.
- The bulk of the operational savings are attributed to implementing core lab concepts at the General and Civic Campuses and reduced administrative structures[117]. The Civic and General Campuses have lagged behind other hospitals in implementing core lab concepts.
- The capital costs of approximately $18 million include the replacement of the Civic Campuses pneumatic tube system that will minimize the campus's reliance on SPD porters for specimen transportation. This savings opportunity is not included in the current operating cost projections. The Civic Campus reported 9.6 FTEs for specimen collection compared to 2.5 FTEs at the General Campus. TOH has identified a potential additional savings of approximately 4.0 FTEs at the Civic Campus.

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[115] Excludes TOH's share of capital costs.

[116] Gross excluding depreciation, equipment and medical staff costs.

[117] EORL Business Plan August 2000. Scenario 1, page 5, Current and Proposed FTE Levels.

- The regional laboratory is currently planned to occupy new space[118] on the 3rd level of the General Campus. Since a significant amount of the workload will be from regional hospitals and from TOH's two other campuses, the 3rd floor location provides for less efficient transporting of referred-in specimens as compared to a laboratory located on ground level near a receiving location[119].

6.3.1.1 *Scope of Services*

Laboratory services are currently provided on all campuses:

- Biochemistry, Hematology and Blood bank are provided at all 3 campuses
- Microbiology and pathology services are provided on both the General and Civic Campuses.

Historical relationships (pre merger) between the Civic and General Campuses, has resulted in limited rationalization of services between these two campuses. Microbiology appears to have had better historical working relationships. For the most part, laboratory consolidation between campuses has been put on hold as the EORL project proceeds.

6.3.1.2 *Operations*

Findings related to operations are outlined below:

- Laboratory Information System:

  Both the Civic and General Campuses acquired and implemented the Cerner Pathnet Laboratory System at the same time (pre merger). There was no collaboration between the hospitals and as a result the TOH now operates two distinct systems[120]:

  - Systems are not linked, no sharing of information. There is difficulty in linking results to patients if patients move between campuses.
  - System databases are completely different (charting, naming conventions, references ranges, test tubes)

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[118] The new space represents the proposed Podium A and proposed Eye Institute expansion for Level 3 of the General Campus. (Appendix A - The Ottawa Hospital Functional Program March 2000 Executive Summary)

[119] The current General Campus Laboratory is located on the main floor of the hospital.

[120] The Riverside was using Meditech but is now using the Cerner system from the General Campus.

Department Managers also reported:

  - Poor statistical reporting capabilities and often need to manually count workload
  - The system is unable to report workload by unit, thus making allocation of costs by area (such as the Heart Institute) problematic.
  - There are differences in counting LMS units between campuses (reported as overstating versus understating).

This fall a project was initiated to develop a plan to consolidate and standardize. The costs of a new Laboratory Information System have been included within the EORL project's capital cost projections (each hospital is to pay for its own Laboratory Information System[121]). However it is unclear as to whether one-time implementation costs have been included.

- Different policies and testing procedures are in place at each campus
- Laboratory instrumentation is different at each campus.
- Core lab concept is only operating at the Riverside Campus.
- There is limited cross training in place (night time staff can work across benches)
- Specimen Procurement & Transportation practices and roles and responsibilities are different between campuses:
  - General Campus:
    - Lab staff collect and transport specimens between 0600 – 0830
    - Nursing staff collects during other hours and use pneumatic tube for transport
    - ICU/ER draw own specimens and use pneumatic tube for transport
  - Civic Campus:
    - Part-time lab staff collect in the morning (4 hours) and leave specimens at nursing unit
    - SPD porters transport specimens to Lab (on a scheduled and on-request basis)

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[121] Page 5, EORL Business Plan August 2000

        - ICU/ER draw specimens, SPD porters transport
        - Nursing draw specimens on other shifts, SPD porters transport
    - Riverside Campus:
        - Lab staff collect and transport
- Laboratory service billings at the General Campus are handled internally by the Laboratory and by Finance at the Civic Campus.
- The reporting of workload and staffing by Laboratory section was reported as problematic and not accurate.
- It is recognized that currently insufficient critical mass exists at the Riverside laboratory to provide a cost effective and efficient service. However TOH anticipates activity related to surgical clinics, Urgent Care Centre and dialysis should provide for sufficient workload to warrant a lab services on campus.

6.3.1.3 Performance and Staffing

The 1999/2000 MIS Trial Balance File reported 317.0 FTEs for Clinical Laboratory Services[122].

TOH's subsequent review of their MoHLTC reported data during this operational review resulted in the following additions to the reported resources:

- 9.6 FTEs and associated costs ($402,477) were added from Materials Management for specimen transportation at the Civic Campus
- 2.5 FTEs and associated costs ($105,053) were added from Materials Management for specimen transportation at the General Campus

The total Clinical Laboratory FTEs for productivity comparison purposes were 329.1 FTEs. In 1999/2000 Clinical Laboratories achieved a productivity of 0.024 worked hours per laboratory workload unit. This is slightly below the median and mean performance of the peer group.

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[122] Excluding Molecular Genetics and Gamete lab staff.

Laboratory Productivity Comparisons

		Worked Hours per laboratory Workload Unit
TOH	1999/2000	0.024
Peer Range 1999/2000	Minimum	0.018
	25th	0.022
	Median	0.024
	75th	0.027
	Mean	0.024

To achieve the 25th percentile performance TOH would need to reduce staffing by 24.27 FTEs.

The EORL initiative projects a savings of 44.09 FTEs[123] (from a total of 308 FTEs). These savings exclude potential FTE reductions related to the installation of a new pneumatic tube system at the Civic Campus. TOH estimates that this could result in an additional savings of approximately 4.0 FTEs, assuming that the Civic Campus transport requirements are similar to that of the General Campus. A total FTE reduction of 48.09 FTEs (approximately 79,444 worked hours) would be realized.

Based on the 1999/2000 reported workload units this would result in a productivity level of 0.021 worked hours per laboratory workload unit. This is below the 25th percentile performance level of the peer group. This is comparable to the two peer hospitals currently operating at below the 25th percentile that are also large teaching hospitals[124] and provide services to other hospitals and have partnerships with the private sector.

TOH needs to monitor the cost effectiveness of the Riverside laboratory on a continual basis. Matching staffing to workload is critical to ensuring a cost effective and efficient laboratory service operates at the Riverside Laboratory.

The Riverside Lab operating in a core lab concept achieved a productivity level 0.035 worked hours per workload unit in 1999/2000 based on a staffing level of 15.0 FTEs. For the Riverside Lab to achieve the current (1999/2000) overall laboratory productivity level of 0.024 worked hours per workload unit the Riverside Lab would need to either decrease staffing by 4.6 FTEs or increase workload by about 45%. The EORL initiative identifies a staffing compliment of 9.0 FTEs for the Riverside Laboratory (a 6 FTE reduction from 1999/2000 levels)[125]. TOH reported that the current Riverside Laboratory staffing compliment is 9.0 FTEs for the current fiscal (2000/01).

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[123] The reduction is from a total of 308 FTEs reported in the EORL Business Plan August 2000 (Scenario 1, page 5).

[124] These two teaching hospitals are operating at 0.021 and 0.018 worked hours per workload unit.

Based on our review and analysis, and review of the EORL initiative, we suggest that the hospital should set and implement a productivity target for Clinical Laboratories of 0.021 worked hours per patient care workload unit. The target staffing for TOH's clinical laboratory is 281.01 FTEs, approximately a 15% reduction from 1999/2000 levels.

Laboratory Target Staffing

	FTES
1999/2000 Lab Staffing[126]	329.10
Less	
Productivity Efficiencies	48.09
Target FTEs	281.01

The target staffing includes the allocations required for supporting the Heart Institute. The proposed staffing reductions from the EROL initiative are linked to the construction of a new laboratory at the General Campus, which is 2 - 3 years away. At that time the Heart Institute cost allocations should also be reduced to reflect the cost efficiencies to be realized (other subsidiary organizations should also benefit from these cost efficiencies).

However, the staffing efficiencies for the Riverside Laboratory (reduction of 6 FTEs from 1999/2000 levels) are reported to have been achieved for this current fiscal year (2000/01). Also, the potential exists to minimize the Civic Campus's reliance on transportation porters for specimen delivery by having the part time phlebotomists drop off their morning collection specimens at the laboratory or at a single central location prior to their departure.

In addition to the labour savings, the EORL initiative has also identified annual non-labour[127] savings of approximately

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[125] TOH reported that the Riverside Campus is currently operating with 9.0 FTEs

[126] Excluding Molecular Genetics and Gamete lab staff.

[127] Non-Labour expenses included: leasing/rental, reagents/chemicals, glassware plastics, reference testing, equipment expenses, other supplies, transportation

$728,000 for TOH[128]. Opportunities for reduced supply costs are included under Materials Management.

It is recommended that:

(67) The Director of Laboratory Services and the Director of SPD work together to implement new early morning specimen collection practices at the Civic Campus that minimize reliance on porters for specimen pickup and transportation to the Laboratory.

(68) The Vice President of Professional Services and Director of Laboratory Services should reduce staffing levels in the Clinical Laboratories to achieve a productivity level of 0.021 (M&O & UPP) worked hour per patient care workload unit.

6.3.2 Diagnostic Imaging (Excl. Cath lab)

The Diagnostic Imaging (DI) service encompasses X-ray, diagnostic ultrasound, CT scanning, MRI scanning and nuclear medicine. A Capital Replacement Plan has been developed that projects a cost of $8 million per year with $2 million per year assigned to the development and implementation of a Picture Archival Communication System (PACS). OACIS is expected to facilitate image and report distribution to stakeholders.

6.3.2.1 Organizational Design

A Corporate Director of Diagnostic Imaging reporting to the COO General/Vice-President Information Systems & Professional Services oversees the TOH Diagnostic Imaging department. A Campus Manager, reporting to the Director, is in place at the Civic and General Campuses to oversee the day-to-day operations of the services. General and Civic Campus staff report directly to the Campus Managers. The Director of Diagnostic Imaging manages the Riverside Campus.

The high level of direct communication strengthens a good relationship between the Director, Managers, Supervisors and staff.

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[128] EORL Business Plan August 2000, Scenario 1 – Current and Proposed Lab Budget Page 1

6.3.2.2 Operations

Major findings for the Ottawa Hospital's Diagnostic Imaging include:

- The IS Steering Committee has approved the PACS project and will go to tender in the near future. The project will help ensure the right film gets to the right person at the right time and help control lost films. PAC implementation is projected to take 5 years with the aim of being filmless by 2005.
- Based on the cash flow analysis, a 4-year payback period is expected within a 5-year rollout period. Development of PACS will facilitate improved delivery, distribution and reporting of images resulting in significant savings in staff and supply costs. TOH projects that PACS will generate, on an on-going basis, savings and revenue of over $4M per year after full implementation.
- Currently 30% of equipment is digital ready to be rolled out in the next 12 months. The following 30% to be rolled out in 24 months. Remaining to be rolled-out based on capital replacement plan.

Cash Flow Analysis	Year 1	Year 2	Year 3	Year 4	Year 5	Total Year 1-5
Savings & Revenue	2,367,550	3,975,358	4,660,835	4,754,052	4,849,133	20,606,927
Expenses	2,698,907	2,813,907	2,818,907	2,823,907	2,828,907	13,984,535
Net Savings	(331,357)	1,161,451	1,841,928	1,930,145	2,020,226	6,622,392

- Less than successful at attracting specialized staff (MRI, Ultrasound, and Nuclear Medicine) resulting in high training costs. Instead of training new hires for 6 weeks, 6-9 months of training is required. Retention of staff is a challenge due to salary discrepancies across campuses. Negotiations have halted and the decision is going to arbitration. Due to staffing shortage, contract negotiations, and salary differentials, DI is delaying implementation of weekend services due to the fear of losing additional staff.
- Limited space results in additional work by staff as only 6 months (3 months on floor, 3 months in basement) of film can be maintained at Civic Campus (2 years for General Campus). This results in additional work to recover files more frequently (wastes 6 shifts per month to move file between storage locations). PACS is a solution to reduce workload as it would eliminate the need to recover files.

- Currently 3 disparate order entry systems resulting in radiology clerical staff entering all orders, which is time consuming.
- Diagnostic Imaging and Nuclear Medicine services are physically located in separate areas of the hospital. Opportunities for savings exist through consolidation however need to balance associated capital and infrastructure costs.
- Patient transportation to and from the department has a direct impact on the productivity and through put of the Diagnostic Imaging Department. There is a need to quantify the impact portering services is having on the department in order to identify opportunities (such as shifting resources to Diagnostic Imaging and moving away from the "call when required" type of service) to reduce down-time.

6.3.2.3 Performance and Staffing

The 1999/2000 MIS Trial Balance File reported 301.66 FTEs for Diagnostic Imaging[129].

On-campus interviews and observations identified the following operational characteristics:

- Although TOH supported examination of data at both the aggregate and modality level, due to allocation approaches of MIS statistical and financial data, only aggregate level analysis could be completed.
- Roll up between campuses to the entire corporation is not consistent and we are therefore unable to do any campus-specific analysis.

In 1999/2000 Diagnostic Imaging achieved a productivity of 0.0257 worked hours per workload unit and variable non-labour cost performance of $0.27 per workload unit. Labour productivity is above the 75th percentile and variable cost performance is below the median percentile of the peer comparator group.

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[129] Excluded Cardiac Cath Suite Staffing that is 100% Heart Institute.

Diagnostic Imaging Performance Comparisons

		Worked Hrs per Wkld. Unit	Variable Non-Labour $ per Wkld. Unit
TOH	1999/2000	0.0257	$0.27
Peer Range 1999/2000	Minimum	0.0173	$0.20
	25th	0.0227	$0.21
	Median	0.0246	$0.28
	75th	0.0253	$0.32
	Mean	0.0239	$0.29

To achieve the 25th percentile performance TOH would need to reduce staffing by 36.0 FTEs and approximately $3.2 million in operating expenses (salaries and variable non-labour supplies).

However, if PACS technology/capability was fully implemented as of April 1st, 1999, TOH could have expect savings of approximately $4.1 million dollars annually as follows

- Staff savings of $2.5 million:

Staff Savings	**% of Staff/Staffing Costs**	**$ Savings**
15 Tech FTEs	5% of Staff, 10.6% of Staffing Costs	$1.8M
12 Film Library FTEs	3.9% of Staff, 3% of Staffing Costs	$505K
9 Dark Room Tech FTEs	2.9% of Staff, 1.3% of Staffing Costs	$212K

- Supply savings of $1.6 million:

Supply Savings	**$ Savings**
Reduction in Film	$1.3M
Office Supplies	$150K
Outside Storage	$100K
Chemicals	$80K

The implementation of PACS is a key enabler in achieving significant improvement in both costs and quality of service.

Additional opportunities to improving performance include the following:

- Reduced training costs if qualified people could be hired and excessive training is avoided ($100-120K)
- Reduced lost revenue from ultrasound ($200-400K)
- Physical consolidation of nuclear medicine within imaging

- Ensuring staff resources and equipment are optimally utilized, for example, assessing the impact porters have on lag time at the units or developing work intensification strategies.
- Many of the modalities (e.g., CT, General, nuclear meds) will benefit from the purchase of new equipment (as prescribed in the Capital Replacement Plan) that should lead to increased productivity.

The proposed target staffing and supply costs for TOH's DI department are identified in the following table:

Diagnostic Imaging Target Staffing and Variable Supply Costs

	FTES	Variable Non-Labour Costs
1999/2000 DI Staffing	301.66	$5,422,000
Less Potential Savings	- 36.0	- $1,630,000
Target FTEs	265.66	3,792,000
Target Indicators	.0227 Wkd Hrs/ Wkld Unit	$0.19 / Wkld Unit

Achievement of these targets will result in TOH performing at the 25th percentile of the peer group. The above staffing and costs include services provide to the Heart Institute. The efficiency in productivity and supply costs reduction will also impact the future cost allocations to the Heart Institute.

As stated earlier the improvements to be realized from the PACS technology will be fully realized after the four-year implementation schedule.

It is recommended that:

(69) The Director of Diagnostic Imaging and the Director of SPD should work together to ensure that current organization of portering resources and related operational practices are not adversely impacting the productivity and through put of the Diagnostic Imaging Department.

(70) The Vice President of Professional Services should proceed with the implementation of the PACS technology.

(71) The Vice President of Professional Services should reduce staffing and supply costs across the Diagnostic Imaging Functional Centres to achieve a productivity level of 0.023 total worked hours per

workload unit, a supply usage of $0.19 per workload unit, and increased revenues of $700,000.

6.3.3 Pharmacy

The hospital currently operates pharmacy services on three campuses. Services provided include clinical pharmacy, IV admixture services, and retail pharmacy operations. Services are decentralized to the two major campuses, with the General Campus providing support to the Riverside.

6.3.3.1 Organization Design

The department is organized around three separate campuses, with leadership for the Riverside Campus provided from the General Campus. The Director of the Pharmacy provides leadership to the General and Riverside Campuses, while a Manager of pharmacy services is responsible for the Civic Campus. The interviews identified no problems with the organizational structure, reporting relationships or scope of authority for the department head, and the manager. The pharmacy department seemed to have a good understanding of the CQI process than other departments that were interviewed.

6.3.3.2 Scope of Services

The Civic pharmacy operates a traditional drug distribution system for all oral medication and provides a unit of use syringe based system for the dispensing for I.V. admixtures. The Civic Pharmacy also provides services to the Heart Institute and the Cancer Center on the Civic Campus.

The pharmacy at the General Campus provides a unit dose drug distribution system for oral medication, and a mini bag system for the distribution of IV admixtures. The General Campus provides services to the Cancer Centre on the General Campus and backup support for the Riverside Campus.

Both campuses provide clinical pharmacy services primarily supporting the inpatient medical areas of the hospital, which are the areas that most benefit from clinical pharmacy. Services are also provided in the surgical areas but in a less intensive fashion.

The Riverside Pharmacy provides services in support of its ambulatory care role.

Retail pharmacy services are provided at each campus, at the Civic Campus the services are provided by hospital staff, while at the General Campus services are provided by an external pharmacy.

Hours of Service

	General Campus	Civic Campus	Riverside Campus
Open	7am	7am	7:30am
Close	10pm	10pm	5:30pm
On-call	10pm to 7am	10pm to 7am	5:30 pm to 7:30am (provided from General Campus)

6.3.3.3 Operations

Facilities

Space at the Civic Campus is adequate for the current distribution system, but space is somewhat limited on the floors for the provision of clinical services. Space at the General Campus is reported to be a significant problem.

Information Systems

Currently the hospital is running three separate information systems, one for each campus. The Director and the Vice President identified this made it difficult for staff to move from one campus to another. In order to share staff between the two main campuses training is required in separate information systems. It was noted that the hospital is planning to move to a single information system for pharmacy services, but not over the next one to two years

Drug Distribution Systems

As noted above the hospital is running two different drug distribution systems. A review of the cost of drugs with the Director of Pharmacy and the Vice-President indicates that drug costs are likely high at the Civic Campus and lower at the General Campus, conversely labour costs at the General Campus are higher than labour costs at the Civic Campus. These differences are not unexpected since the unit dose system (in operation at the General) is known to reduce wastage and loss of drugs, and greatly decrease medication errors, but does so at a cost of increased labor. Conversion of the Civic Campus to a unit dose distribution system would likely reduce the overall drug expenditures for the Civic Campus, and would reduce both recognized and unrecognized medication errors but the change would substantially increase the staffing costs for that campus.

Given changes in technology regarding distribution systems, it would be more appropriate for both campuses to move to an automated unit of use system. This change would likely reduce drug expenditures at the Civic Campus, and almost certainly would reduce the risk of medication errors. It is also likely that the change would enable some savings in labor costs at the General, and facilitate the conversion to a single information system at both inpatient campuses.

The interviewees identified the following problems:

1. There is a need to improve the distribution system at the Civic Campus
2. There is a need to increase the level of clinical pharmacy systems at both the General and the Civic Campuses
3. There is a need to develop a formal drug utilization review process at the hospitals.

There appears to be limited opportunity for further reduction in the hospitals formulary costs unless hospitals prepared to change how it deals with patients who were admitted on maintenance medication. Rather than switch the patient to a generic &/or equivalent drug, these patients are maintained on the drugs they received outside the hospital. This means that the pharmacy must carry a very wide assortment of, common, primarily oral medication.

A business case for an automated unit of use dispensing system at the Civic Campus was developed but not approved. This technology provides an ATM like machine on each floor that dispenses medications for each patient.

Impacts of Other Organizations

The pharmacy department provides services to both the Heart Institute and the Cancer institutes. There are agreements for provision of these services and both the cancer institutes and the heart institute provide for a portion of the staffing complement in pharmacy.

The Heart Institute allocates 8.2 FTE's to pharmacy services of which 7.2 FTEs work at the Heart Institute, and one works at the Civic Campus in recognition of the dispensing requirements.

6.3.3.4 Performance and Staffing

The 1999/2000 MIS Trial Balance File reported 130.25 FTEs for Pharmacy.

TOH's subsequent review of their MoHLTC reported data during this operational review resulted in the addition of 2.38 FTEs and costs ($107,662) from Materials Management for pharmacy stock delivery, ward stock replenishment and drug costs charged inappropriately. The total Pharmacy FTEs for productivity comparison purposes were 132.63 FTEs.

TOH's 1999/2000 performance was 2.30 worked hours per Hospital RIW weighted case[130], compared to the 25th percentile performance of 2.37 for the peer group. Therefore there are no labour savings identified for pharmacy.

Pharmacy Productivity Comparisons

		Worked Hrs per Wtd. Wkld. Unit
TOH	1999/2000	2.30
Peer Range 1999/2000	Minimum	1.84
	25th	2.37
	Median	2.83
	75th	2.94
	Mean	2.66

The variable non-lab non-drug costs at the hospital are above the 25th percentile benchmark. A review of the underlying cost structure done with the Director of Pharmacy at each of the campuses indicates that most ($500,000) of these costs are in Medical Surgical supplies. The review also indicates that these expenses are highest at the General Campus ($410,000). This difference appears to be due to accounting practices. At the Civic Campus these supplies are charged to the end user, mainly nursing floors, and at the General Campus these costs are maintained in the Pharmacy cost centre.

It is recommended that:

(72) The Director of Pharmacy should establish a formal drug utilization review process that would have as one of its goals the identification of savings in formulary costs and/or drug usage.

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[130] The workload indicator of RIW Weighted Cases was agreed to after much considerable discussion.

(73) The Director of Pharmacy should develop a business case to determine the feasibility for conversion to an automated unit of use dispensing system.

(74) The Directors of Pharmacy and Finance should work together to ensure that costs are captured and reported in a consistent manner across campuses.

6.4 Support and Administration Services

6.4.1 Patient and Non-Patient Food Services

The Nutrition and Food Services department is responsible for providing the following services:

- Patient Food Services (Civic and General Campuses)[131]
- Cafeteria/Vending Services (Civic and General Campuses)
- Clinical Nutrition (across all 3 campuses)

TOH also provides an Internship Program for dietetic interns.

Internal and external catering services are managed and staffed separately by Marketed Services, within the portfolio of the Vice President Strategic Planning and Development. The Riverside kitchen facilities are used for catering services, as is an area of the General Campus's kitchen.

Coffee shops across the campuses are operated by the TOH Volunteers. The Heart Institute's cafeteria services are not the responsibility of TOH's Nutrition and Food Services department.

6.4.1.1 Organizational Design

A corporate Director of Nutrition and Food Services, reporting to the Vice President of Facilities Management, manages the Nutrition and Food Services department. The Director is supported with the following management/supervisory structure:

- 1.0 FTE campus Managers at both the Civic and General Campuses responsible for the daily operations of both the patient and cafeteria services. Supervisors (non-working) are in place to provide direct supervision to staff.

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[131] Some minor outpatient services are provided to the Riverside Campus from the General Campus.

- 1.0 FTE Chief Dietician is responsible for Clinical Nutrition. The Chief Dietician does not carry a patient workload.
- 0.80 FTE Manager Internship and Research is responsible for the internship program.
- 1.0 FTE Manager Projects who was recruited in 1998/99 to assist service restructuring.
- 1.0 FTE Manager Systems (currently vacant) to manage the CYBORG systems in place at both campuses.

6.4.1.2 Operations

Findings related to operations are outlined below:

- The Ottawa Food Commissary is used to support the cold plating operations at both inpatient campuses, thus resulting in minimal production at both campuses. The Director reported that the commissary (which supports numerous hospitals through out Ontario) is reaching production capacity and may require a new plant. At the time the food commissary was established the marketplace was not as advanced and other options are now available.
- Operational and organizational differences between campuses include the following:
  - Transportation of rethermalization carts to nursing units:
    - Civic Campus: SPD Transportation Workers
    - General Campus: Food Service staff
  - Patient Tray Delivery:
    - Civic Campus[132]: Housekeeping Patient Service Assistants
    - Heart Institute: Food Service staff
    - General Campus: Food Service staff
  - Nursing Unit Pantries:
    - Civic Campus[133]: Housekeeping Patient Service Assistants

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[132] Patient tray delivery staffing and service to be shifted back to Food Services as of January 2001.

[133] Pantry replenishment staffing and service to be shifted back to Food Services as of January 2001.

        - Heart Institute: Food Service staff
        - General Campus: Food Service staff
    - Dish Washing:
        - Civic Campus: Food Service staff
        - General Campus[134]: SPD staff
    - Kitchen housekeeping:
        - Civic Campus: Food Service staff
        - General Campus: Housekeeping staff
    - Diet Technicians:
        - Civic Campus: reporting of staff split (50/50) between Food Services and Clinical Nutrition
        - General Campus: all staff reported under Clinical Nutrition
    - Clinical Dieticians:
        - Civic Campus: staff located on floor; Diet Technicians do input of menus
        - General Campus: staff located in central location; Dieticians do menu input
    - Menus:
        - Civic Campus: non-selective menu
        - General Campus: selective menu (moving to non-selective in about 40% of areas; not sure if it will expand further)
    - Cyborg Food Service System
        - Same information system, different databases, 7-day vs. 14-day menu cycles, etc.
- Civic Campus's dishwasher is approximately 40 years old, and the department can longer obtain replacement parts. A back-up plan to use disposables is in place should the dishwasher become non-repairable or down for long periods of time.
- Currently both campuses have plating operations/assembly. This results in duplicity in supervisory structures, operations, equipment, etc. While the concept central plating was reportedly looked at 6 years

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[134] Staff and functions are to be transferred to Food Services in January 2001.

ago (encompassing more than just the Civic and General Campuses), the current environment warrants a new cost benefit analysis be undertaken relative to the Civic and General Campuses. Economies of scale would lead to a reduced management/supervisory structure and lower assembly costs. Transportation costs should be considered in conjunction with other campus transportation / logistics services (materials, labs, etc.) and costs associated with dishwasher replacement and other equipment replacement costs, etc. also need to be considered.

- Potential to increase revenues may exist from closer collaboration with other service providers:
  - The Nutrition and Food Services department considers the coffee shop operations as direct competitors and have developed marketing strategies to attract staff and visitors to the cafeterias (advertising, different name brands, etc.).
  - Internal and external catering services are managed, staffed and operated independently (under different division).

6.4.1.3 Performance & Staffing

Clinical Nutrition

The 1999/2000 MIS Trial Balance File reported 35.44 FTEs and total attendances of 15,655. TOH's subsequent review of their MoHLTC reported data during this operational review resulted in the addition of the following attendances that were not reported:

- General Campus's attendances of 32,563
- Civic Campus's ICU attendances of 1,007

In 1999/2000 Clinical Nutrition achieved a productivity level of 1.194 worked hours per attendance. This is slightly above the peer group's 25th percentile performance level of 1.191 worked hours per attendance.

Clinical Nutrition Productivity Comparisons

		Worked Hrs per Attendance
TOH	1999/2000	1.194
Peer Range 1999/2000	Minimum	0.956
	25th	1.191
	Median	1.415
	75th	2.276
	Mean	1.754

The target staffing for the TOH Clinical Nutrition functional centre is 35.44 FTEs. This the includes the current 1.13 FTEs providing service to the Heart Institute and was reported as an accurate reflection of resources provided.

Food Services

The 1999/2000 MIS Trial Balance File reported the following resources and statistics for patient and non-patient food service operations:

- 176.16 FTEs
- $12,704,356 Gross Operating Costs
- 399, 889 patient meal days (inpatient and outpatient)

TOH's subsequent review of their MoHLTC reported data during this operational review resulted in the following additions to the reported resources:

- 4.58 FTEs and associated costs ($192,049) were added from Materials Management for meal carts/nourishment/pantry services
- 5.58 FTEs and associated costs ($233,679) were added from Materials Management for dishwashing services
- 11.4 FTEs and associated costs ($430,322) were added from Housekeeping for patient service assistants providing tray delivery services

The following restated resources and statistics for patient and non-patient food services were used for performance comparisons:

- 197.73 FTEs
- $13,560,406 Gross Operating Costs
- $8,524,961 Net Operating Costs (excludes external recoveries and depreciation/equipment related expenses)

- 399,889 patient meal days

In 1999/2000 Food Services achieved a performance of $21.32 net operating cost per patient meal day. Only one other peer hospital achieved a performance level better than the TOH performance.

Patient and Non-Patient Food Services Performance Comparisons

		Net Costs per Patient Meal Day
TOH	1999/2000	21.32
Peer Range 1999/2000	Minimum	20.86
	25th	23.85
	Median	25.29
	75th	26.71
	Mean	25.91

The target net cost per meal day for the TOH Food Services functional centre is $21.31 and the target staffing is 197.73 FTEs (inclusive of providing food services for the Heart Institute inpatients).

It is recommended that:

(75) The Director of Food Services should work with other support departments (SPD, Housekeeping) to develop and implement consistent operational processes and accountabilities across campuses.

(76) The Vice President of Facilities Management and the Director of Food Services should conduct a cost benefit analysis for the feasibility of centralized plating services serving both campuses as compared the current practice of plating on both campuses.

6.4.2 Biomedical Engineering

Interviews were conducted with the Director of Health Technology and the Managers from each of the two campuses. The department provides for the maintenance and repair of biomedical equipment throughout the organization. The Department also provides services to other Hospitals in Ottawa, and the Ottawa Valley. It also provides services to the Research Institutes the Heart Institute and the Cancer Centres.

6.4.2.1 Organizational Design

The organization of the department is based on maintaining relatively distinct services at each campus. There are two managers reporting to the Director one for the Civic Campus and one for the General and Riverside Campuses. The interviews identified no problems with the organizational structure, reporting relationships or scope of authority for the department head, or managers. The Director considered his responsibilities to be corporate and strategic and appeared to have an excellent grasp of the issues facing the hospital.

6.4.2.2 Operations

Factors affecting operations are outlined below:

- There is a significant lack of space at the Ottawa Civic Campus, but facilities at the General Campus are somewhat better.
- There was no indication that the equipment used in the department was inappropriate.
- Internal to the department there is little opportunity to standardize supplies, however there is some opportunity across the hospital to standardize on equipment and then reduce expenses for the Hospital as a whole.
- Equipment throughout the hospital is old and requires significant resources to maintain. While continued maintenance of older equipment reduces capital costs, maintenance of old equipment increases operating costs. This issue was also noted in the review of Plant and Operations, where $12 million in new equipment is required.
- Inadequate clerical resources means that professional staff are performing clerical duties
- As noted elsewhere there is a significant lack of space particularly at the Ottawa Civic Campus.
- Delays in the financial reporting systems have resulted in lost potential to claim expenses against insured equipment.

6.4.2.3 Performance and Staffing

The 1999/2000 MIS Trial Balance File reported the following resources and statistics for Biomedical Engineering Services operations:

- 44.13 FTEs

- $4,993,005 Gross Operating Costs
- $4,692,249 Net Operating Costs (excludes external recoveries)

TOH's subsequent review of their MoHLTC reported data during this operational review resulted in the addition of 3.99 FTEs ($163,280) from Materials Management for staff responsible for repair and maintenance of life support, O2 and gas equipment.

The following restated resources and statistics for patient and non-patient food services were used for performance comparisons:

- 48.03 FTEs
- $5,156,285 Gross Operating Costs
- $4,855,529 Net Operating Costs (excludes external recoveries)

Biomedical Engineering performance comparisons are based on Biomedical Engineering's net operating cost per Hospital RIW Weighted Case.

TOH's 1999/2000 performance as compared to the peer teaching hospital range is presented in the following table.

Biomedical Engineering Performance Comparisons

		Net Cost per Wtd Case
TOH	1999/2000	$48.03
Peer Range 1999/2000	Minimum	$21.15
	25th	$33.34
	Median	$38.46
	75th	$41.25
	Mean	$36.13

TOH's Biomedical Engineering net cost per weighted case is the highest from amongst the peer teaching hospital group. To achieve the 25th percentile TOH would have to reduce Biomedical Engineering operating costs by approximately $1.4 million (including 18.98 FTEs).

While adjustments have been made to the MoHLTC reported data the director has identified that approximately $800,000 of operating costs within the Biomedical Functional Centre are under the control of Renal Services. Approximately 12,000 labour hours within the Biomedical Engineering Services represent Nursing Aides who perform a role more related to preparing the patient for dialysis than maintaining the equipment (as reported by the Director). To facilitate the reconciliation of Renal Dialysis operating costs with MoHLTC funding levels these costs should be captured and reported under the Renal Dialysis functional centre.

Through discussions with staff opportunities to improve the cost effectiveness of the Biomedical Engineering service include the following:

- There is an opportunity to increase the scope of the department and reduce the overall expenses for the hospital, this would entail increasing the number of contracts for which the biomedical department is responsible and increasing the number of maintenance insurance programs at the hospital. Increasing reliance on the Biomedical Department could yield an additional $154,000 of savings (see attached appendix one). These savings would result in those areas that would change from external to internal service reliance.
- The Department currently receives about $300,000 in revenues primarily from recoveries for services being provided to other hospitals in Ottawa. The Director has indicated that this amount is insufficient to cover the costs by approximately $150,000. Recent negotiations of the service agreement resulting in this deficit, has seen the client contract for services with another provider. As such the department should reduce operating costs by $150,000 to account for this lost revenue.
- There are possible savings of approximately $100,000 through the redesign of the work order system and as noted elsewhere through increased involvement throughout the hospital on maintenance contracts and maintenance insurance programs.

The target net operating cost per wtd case for the Biomedical Engineering Services is $45.56 per weighted case calculated as follows:

Biomedical Target Operating Costs

1999/2000 Net Operating Costs	$4,855,529
Less	
Increased Internal Reliance	$154,000
Loss of Service Agreement	$150,000
Work Redesign	$100,000
Target Net Operating Cost	$4,451,529
Target Net Operating Cost / Wtd Case	$45.56

Excluding the Renal costs currently reported under Biomedical Engineering results in a net cost per weighted case of $37.29. This level is between the median and mean performance range of the peer teaching hospitals. Given the age of the equipment being maintained, and the lack of facilities at the Civic Campus, it is likely that they will be unable to attain the 25th percentile.

It is recommended that:

(77) The Vice President Facilities Management should ensure that the costs of services provided to other organizations are appropriately recovered.

(78) The Vice President Facilities Management should reduce operating costs by $150,000 to account for service agreements no longer provided.

(79) The Vice President Facilities Management should conduct a study to verify the feasibility and potential savings ($154,000) to be realized from an increased reliance on internal services.

(80) The Vice President Facilities Management should reduce operating costs by $100,00 through the redesign of the work order system.

(81) The Vice President of Finance should ensure that all resources and costs associated with Renal Dialysis are captured within the Renal Dialysis functional centre.

(82) The Vice President of Finance should transfer accountability for the 3.99 in Materials Management responsible for the repair and maintenance of life support, O2 and gas equipment to Biomedical Services.

6.4.3 Materials and Supply Management

The management of materials and supplies at TOH encompasses the following services:

- Purchasing
- Supply, Processing and Distribution (SPD)

To date the restructuring and consolidation of materials management services across the 3 campuses has been minimal. While a single purchasing department has been established (though not consolidated in a single location), operationally three materials management services continue to operate across the three campuses.

At the time of this review TOH has undertaken 2 major studies to plan for the restructuring of materials management services as follows:

- Johnson & Johnson Consulting Services has been contracted for a 10-month period (August 2000 to May 2001) to manage the processing operations, conduct a detailed review of processing services and implement the recommendations arising from their review
- Source Medical has been contracted to conduct a detailed activity based analysis and costing of the entire supply chain process at TOH, from requisitioning through to and including accounts payable. TOH expects significant redevelopment of the entire supply chain process as a result of this analysis that is to be completed in March 2001.

6.4.3.1 Organization

The Materials and Supply Management operate as two departments (Purchasing and SPD), each managed by a corporate director, both reporting to the Vice-President of Finance.

Purchasing

A corporate Director of Purchasing is responsible for overseeing the management of all purchasing activities at TOH. In addition to the Director, the following Management/Supervisory staffing are in place:

- 1.0 FTE Corporate Manager Purchasing
- 1.0 FTE Supervisor (Civic Campus)

- 1.0 FTE Corporate Manager of Operating Room Med/Surg Materials
- 1.0 FTE Corporate Contract Coordinator

Supply, Processing and Distribution

A Corporate Director of Supply, Processing and Distribution is responsible for overseeing the management of all SPD activities at TOH. In addition to the Director, the following Management/Supervisory staffing are in place:

- 1.0 FTE Corporate Supply Services Manager
  - 2.0 FTEs Campus Supervisors (Civic and General)
- 1.0 FTE Corporate Processing Services Manager
  - 6.6 FTEs Campus Supervisors (Civic, General and Riverside)
- 1.0 FTE Corporate Distribution Services Manager
  - 2.0 FTEs Campus Supervisors (Civic and General)

Managers are responsible for the day-to-day operations and Supervisors provide direct supervision of staff, including scheduling and time recording.

6.4.3.2 Purchasing Operations

TOH has adopted a centralized purchasing model to provide corporate purchasing services across the organization. Following the merger, 6.11 FTEs were transferred to purchasing from other functional centers to account for purchasing activities performed in other functional centres (Facilities Management, Pharmacy, Operating Room, Stores Inventory). With the exception of Food Services, Purchasing is responsible for contract negotiation and buying for all areas of the corporation. Initiatives implemented and achievements realized since the merger include the following:

- A corporate purchasing model has been implemented whereby buyers have been assigned responsibility for specific commodities.
- A single, corporate Product Evaluation and Standardization Committee has been established. The Director of Purchasing serves as Chair of the Committee that meets on a monthly basis and uses sub-groups as appropriate depending on the product being evaluated. The Committee is also responsible for determining which items are to be stored in official inventory.

- There has been a strong focus on contract negotiation/consolidation:
    - Increased critical mass provides economies of scale to achieve better prices. Prices are evaluated with other purchasing groups (such as MedBuy) to achieve the best prices.
    - Regional contracts are in place with other health care organizations (Kingston, Ottawa Rehab Centre, Queensway-Carlton, etc.).
    - Clauses are included in all contracts that allow for sharing of contract prices and for TOH to realize best prices in Canada.
- TOH reported that the following savings have been realized since the merger:
    - 1998/99: $470,000 purchase price savings and $2.6 million in rebates
    - 1999/2000: $660,000 purchase price savings and $1.5 million in rebates
    - 2000/01: $1.2 million savings target, of which 40 – 50% had been realized at the time of this review.
- Tighter control of ordering has been achieved by reducing the number of credit cards from 95 cards to 3 cards. The remaining credit cards are accessed through Purchasing.
- Discussions are underway to develop purchasing relationships with the Winchester and Hawkesbury Hospitals.

Findings and opportunities related to purchasing include the following:

- The Purchasing Department indicated that there are significant additional opportunities to realize purchase price savings through standardization, most notably in Operating Room related products[135]. Improved drug purchasing and contract negotiation will also lead to lower drug costs. We have established an additional purchasing savings of $1.2 million (approximately 1% of non-labour costs excluding depreciation, laundry, food, equipment related costs) beyond those that have currently been achieved and have also targeted a declining potential of 80% of the previous year's savings for the next 4 years[136].

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[135] This is the responsibility of the Corporate Manager of Operating Room Med/Surg Materials.

- The Director of Purchasing should continue to pursue purchase price savings and establish new supply savings targets on an annual basis. Achievement of targets and savings realized should be communicated and reported across the organization on a regular basis.
- Three separate inventories results in 3 inventory orders. Future establishment of a single inventory will result in one purchase order for inventory.
- On-line requisitioning is in place for high volume users only. Paper requisitions are received from other locations. Terminal license fees have limited the extension of on-line requisitioning. We encourage the Hospital to continue moving towards automating the entire supply chain process.
- While TOH has made the decision to virtually eliminate the use of Purchase Cards, these cards can provide for a lower cost alternative to the traditional purchase order model in place at TOH for certain types of items/services (such as low costs items, travel, maintenance/repair supplies, internet-based purchasing, etc.). Used properly these cards eliminate the need for purchase orders to be created for all items, reduces the number of vendor payments, improves the overall purchasing cycle time and enhances employee empowerment and trust.
- Consideration should be given to developing and implementing policies and procedures for the use of "purchase cards" rather than eliminating the use of these cards.
- The Civic Campus supervisor position was reported as needed due to having purchasing located on three campuses. Consolidation of the purchasing department (preferably near finance) at a single location will eliminate this need in the future.
- EDI capabilities are currently limited due to system capabilities. EDI orders are only available on the Carenet system and need to be entered (re-keyed). Vendors are called to place orders. The next version of the ORACLE

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[136] The Eastern Ontario Regional Laboratory project alone has estimated non-labour savings of approximately $728,000 annually for TOH.

system (Summer 2001) will provide for enhanced EDI capabilities.

- The ORACLE system was reported as slow resulting in significantly long processing time for requisitions and purchase orders. It is anticipated that system upgrades will improve performance.
- At the time of the merger there were 22.0 FTEs in the Purchasing departments of the 3 campuses. The current staffing compliment of 28.1 FTEs is a result of transfers of purchasing staff from other functional centers. Workload associated with the transfer of patients from the Grace Hospital was reportedly absorbed within these staffing levels. However a 27% increase in staffing is contrary to experiences realized in other health care networks/regions that consolidate purchasing/materials management services, where decreases are the norm.
- Current purchasing structure was reportedly established to support growth in regional opportunities. However at the time of this review no formal agreements with other organizations had been entered into.
- For each Buyer there is a Purchasing Assistant position. The Buyers are focused on negotiation and assistants are focused on the clerical aspects of placing the purchase order (PO creation, expediting, etc.). Future relocation, new system upgrades (such as EDI capabilities), product standardization and inventory consolidation should lead to a reduced need for purchasing assistants.
- A significant amount of Buyer related workload is currently focused on contract consolidation and negotiation. These activities are very much restructuring related and should minimize once consolidation and standardization is complete.
- Integration and reengineering of the accounts payable functions with the purchasing assistant functions would streamline processes, improve communications and reduce staffing requirements.

6.4.3.3 Supply, Processing & Distribution Operations

The supply, processing and distribution areas are organized to provided the following services:

- Supply Services: inventory control and management, replenishment of supplies in user areas, receiving of supplies, long term storage

- Processing Services: instrument washing, decontamination, sterile processing, OR case cart preparation, ward tray preparation
- Distribution Services: transportation of materials, patient portering

Key findings related to SPD operations are as follows:

User Area Supply Replenishment

A 48-hour top–up system is used for replenishment of stock in user areas. Carousels are in place at all campuses to allow for more efficient order picking. The major differences between campuses are as follows:

- Individual patient supply/linen cabinets at the General Campus results in a more labour intensive supply replenishment routine as compared to the Civic Campus where nursing unit supply rooms are replenished. This is a feature of the Friesen concept, which is intended to minimize the time nursing staff spend retrieving supplies. However, the additional labour required for supply replenishment at the General Campus is offset somewhat with the use of injection elevators that eliminate the need for manually transporting supplies from main stores to the floor.
- The supply worker at the Civic Campus provides a broader replenishment roll, which includes replenishment of the nourishment pantry and the pharmacy stock. These functions are the responsibility of the respective departments at the General Campus.
- Replenishment of forms is performed once per week (Saturdays) at the General Campus and at the Civic Campus it is incorporated into the role of the supply worker.

Inventory Control and Management

Inventory management is a critical function. It can either increase or decrease cash flow, can improve or destroy service levels, and can create or prevent expenditure over-runs. Inventory is typically thought of as one large mass, however the size of the mass is determined by the multitude of decisions relating to individual items during the course of the year. Policy directives, no matter how specific, must ultimately be reduced to the ordering strategy for a single item. The task of inventory management is one of controlling inventory through the selection of the time to order and the quantity to order, taking full account of future requirements.

The department reported that minimal focus has been placed upon inventory management since the merger. Each campus continues to maintain inventories and to date standardization and consolidation of inventories has been limited to the identification of common items between the Riverside and General Campuses inventories. The department is currently developing goals for the management of inventories that include a single warehouse located at the Civic Campus.

Historical data related to inventory values and turnover rates were reported as problematic, due to system changes and differences in what is counted as part of inventory between campuses. The following data provided by the department is the best available information of current and historical inventory values:

Campus	March 1997	March 1998	March 1999	March 2000
General (Including Pharmacy)	1,622,853	$ 1,664,012	$ 2,063,968	$ 2,938,958
Civic (Including Pharmacy)	4,492,631	$ 4,470,458	$ 3,374,116	$ 2,815,384
Riverside (Including Pharmacy)	N/A	N/A	$ 287,697	$ 298,904
Total Inventory			$5,727,780.00	$6,055,246.00

The increase in value at the General Campus was identified as additional inventory related to Y2K and the transfer of the Civic Campus's forms to the General Campus. Some examples of differences between campuses of what is counted in determining inventory values, include the following:

- Civic Campus's nursing ward stock is counted while the General and Riverside Campuses' is excluded.
- Civic Campus's maintenance supplies are counted while the General and Riverside Campuses' are excluded

The number of times inventory turns over in a year is a generally accepted measure of inventory control performance. TOH was unable to provide turnover rates prior to this fiscal year (2000/01). The following inventory values and turnover rates were provided:

TOH Inventory Values & Turnover as of September 2000

Inventory (excl. Pharmacy)	Value	Turnover
General	$ 1,344,001	9.8
Main Stores (Civic)	$ 997,253	12.4
Main OR (Civic)	$ 837,120	2.7
Riverside	$ 183,769	11.4
Total	$ 3,362,144	9.1

Overall TOH has achieved a year-to-date turnover rate of 9.1 for the inventories reported (on average approximately 6 weeks of inventory is on-hand). This turnover rate is significantly lower than typical targets in other organizations (both in health care and private industry). The HSRC has identified the following indicators of inventory turnover performance:

Turnover Rate	Performance
Less than 10 turns / year	Low
15 turns / year	Average
Greater than 20 turns / year	High

TOH is operating at the low end of the performance range for the inventories reported. Higher inventory levels also result in higher annual inventory carrying costs[137] (typically 10 - 15% of the value of inventory).

Achievement of the average and high performance rates would lead to the following cost savings:

Potential Savings through Improved Inventory Turnover

15 Turns /Year		20 Turns / Year	
One-Time Inventory Reduction	Carry Cost Savings (10%)	One-Time Inventory Reduction	Carry Cost Savings (10%)
$ 1,322,443	$ 132,244	$ 1,832,368	$ 183,237

Clearly there is room for improving inventory turnover. TOH should move aggressively to reduce inventory levels and improve inventory turnover. We are proposing TOH adopt an initial inventory turnover target of 15 per year. Upon successful realization of this target, the Hospital should establish a new target based on its new experience. The 15 turns per year would result in reduction in inventory value of approximately $1.3 million and would reduce carrying costs by about $132,000 annually. This target should be achievable over the next 2 years.

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[137] Inventory carrying costs consist of the following costs of maintenance: obsolescence, interest, damage, deterioration, shrinkage and storage.

Consideration should also be given to potentially outsourcing or partnering the inventory management program with a third party that specializes in logistics. Such an arrangement would allow TOH to focus more on its core businesses (health care) and redirects the cost of owning inventory to another organization.

Processing Services

Processing services are currently provided on all 3 campuses. Findings related to processing services are as follows:

- There is a high percentage and reliance on re-useables. There are opportunities to reduce processing costs through increased use of disposables.
- There are significant opportunities for product standardization within and between campuses. The number of consignment items and vendors could be reduced.
- OR case cart systems are operated at all 3 campuses, however the systems themselves are different.
- Specialized requests for the OR were reported as part of the normal operations. The General OR has reportedly designed 170 custom kits supported by 3 FTEs in processing.
- Job classifications are not consistent across campuses, the General Campus has multi-levels of classifications, the Civic has one classification level and the Riverside has a combination of the two. Also, reportedly the current collective agreements restrict cross training.
- Policies and procedures were reported as not being standard between campuses.
- A carousel is used for OR case cart picking at the General Campus. It was reported that space limitations restrict picking to two cases versus the six cases that the carousel was designed for. Also there are concerns that the use of the carousel leads to multi-handling of products.
- Campus differences and the extensive use of re-useables results in a significant impact on continuing education and training requirements.

Our findings are consistent with those identified by Johnson & Johnson Consulting Services in their Sterile Processing and Distribution Program Analysis and Recommendations Report dated October 27, 2000. The results of the Johnston & Johnston analysis were presented to TOH in October 2000 and confirm that there are significant opportunities (in addition to those that are identified in this report) to improve operations and cost effectiveness of the sterile processing and distribution services.

The focus of the Johnson & Johnson report is upon improving the operations of the 3 existing sterile processing services. The feasibility of a single centralized sterile processing operation was not within the terms of reference for the Johnson & Johnson analysis. However there are significant benefits to be gained from a centralized processing service that should be evaluated. These include:

- Maximization of existing sterilization equipment
- Reduction in the cost per load for processing equipment
- Decreased staff exposure to toxic chemicals
- Centralization and standardization of instruments would increase utilization of existing inventory of instruments and increases instrument availability to all campuses
- Consistent/standard training and continuing education

Distribution Services

Distribution Services are responsible for the transportation of all materials and patients. Services are provided both on an as-required basis and on a scheduled basis. Staff are assigned to zones/areas or directly to functional centers. Findings related to Distribution Services are as follows:

- Patient transport support for Diagnostic Imaging, Emergency and Heart Institute on the Civic Campus is on an as-required basis. These areas are required to call in their requests for service and then wait for service, which may result in delays. At the General Campus staff are assigned to the Diagnostic and Emergency areas. Operating Rooms at both campuses have staff assigned to the ORs. Management responsibility for patient transport staff resides with Materials Management as a centralized resource.
- The role of the Civic Campuses Transportation Worker was developed through a reengineering project (FOCUS)

that the Civic Hospital implemented at/near the time of the merger. It would appear that this implementation has created a "middle man" in the delivery/replenishment cycles and may inherently create inefficiencies/delays in the overall process. Some examples of this "middle man" step include the following:

  - Laboratory specimens collected by the part time phlebotomists are stored at the nursing units until they are retrieved and delivered by the transportation worker.
  - Supply workers are dependant on the Transportation Workers to deliver replenishment supplies from stores, food services and pharmacy so that they may perform their replenishment activities.
  - Receiving docks are cleared of supplies after the Transportation Worker picks up the received goods and delivers either to main stores or directly to the user departments.

- Civic Campus has a much higher reliance on manual transportation services for materials transport than does the General Campus. The lack of a reliable pneumatic tube at the Civic Campus contributes to this reliance. Also the use of supply injection elevators at the General Campus minimizes reliance on manual labour for moving supplies.
- The General and Civic Campuses use different systems to assign porters to meet as-required requests from user departments:
  - Civic Campus uses an automated telephone dispatch system, where areas call in their request for service, the system prioritizes the calls and porters are required to call into the system to receive the request.
  - General and Riverside Campuses have a call desk that departments call when requesting a transport service. The call desk operator in turn assigns the call to the porter to provide the service.
- Mail delivery is handled differently between campuses:
  - General and Riverside Campuses use community mail boxes
  - Civic Campus have dedicated mail staff that provide mail delivery

Operationally, there appears to be merit in combining the Supply and Distribution Services functions. This would not only lead to a reduced management and supervisory structure but increases opportunities for cross training and integration of processes thus improving overall efficiency. For example integration and redesign of the Supply and Transportation Worker roles would reduce calls for portering services and related waiting times and improve supply replenishment efficiencies (avoids passing tasks to another role). This may also lead to a reduced number of employee classifications to manage.

6.4.3.4 Performance and Staffing

Materials Management performance comparisons are based on the Materials Management's net operating costs as a percentage of the Hospital's total net operating costs[138].

The 1999/2000 MIS Trial Balance File reported the following resources for Materials Management and Patient Transport[139] functional centres:

- 362.38 FTEs
- $18,957,57 Gross Operating Costs
- $17,115,501 Net Operating Costs (gross costs excluding external recoveries, depreciation and equipment related costs)

TOH's review of the data that they reported to the MoHLTC during this operational review resulted in the following revisions to the reports to the MOH for use in the operational review:

- Transferred 59.75 FTEs from the Materials Management Functional Centre to various other functional centres ($2,501,513 Salaries & Benefits, $53,646 supplies) across TOH:
  - 4.58 FTEs and costs ($192,049) were added to Food Services for meal carts/nourishment/pantry services

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[138] Net costs = gross costs less external recoveries and excluding depreciation/equipment related costs.

[139] For purposes of this review the Materials Management and Patient Transport functional centers have been combined since TOH only reports the General Campus's patient transport resources under the Patient Transport functional center. Also, in addition to patient transporting, staff also move materials such as supplies, charts, films, specimens, etc. The Civic and Riverside Campus's patient transport resources are reported under Materials Management.

  - 5.58 FTEs and costs ($233,679) were added to Food Services for dishwashing services
  - 1.51 FTEs and costs ($63,036) were added to Plant Operations/Maintenance for internal move of staff not accounted for in reporting
  - 13.65 FTEs and costs ($571,576) were added to Laundry/Linen for soiled/clean linen pickup/delivery services
  - 3.9 FTEs and costs ($163,280) were added to Biomedical Engineering for repair & maintenance of life support equip, O2 & gas
  - 16.02 FTEs and costs ($670,759) were added to Health Records for patient records & film transportation
  - 12.12 FTEs and costs ($507,529) were added to Clinical Laboratories for specimen/blood transportation
  - 2.38 FTEs and costs ($107,662) were transferred to Pharmacy for ward drug delivery/replenishment and drug costs reported in Materials Management
  - Transferred $45,583 in supply costs to Respiratory
- 1.0 FTEs and costs ($33,877) were added from Housekeeping (Patient Service Assistants)

The following restated resources and statistics for Materials Management were used for performance comparisons:

- 303.63 FTEs
- $16,440,350 gross operating costs
- $14,598,279 net operating costs (excludes external recoveries, depreciation and equipment related costs)

TOH's 1999/2000 performance as compared to the peer teaching hospital range is presented in the following table.

Materials Management Performance Comparisons

		Net Costs as % of Hospital Net Costs
TOH	1999/2000	3.15%
Peer Range 1999/2000	Minimum	1.79%
	25th	1.97%
	Median	2.10%
	75th	2.46%
	Mean	2.27%

TOH's materials management net cost percentage is the highest from amongst the peer teaching hospital group. With the exception of one peer teaching hospital, all other peer teaching hospitals reported percentages below 2.55%. The four largest peer teaching hospitals reported percentage ranges from 1.79% to 2.54%. The other three peer teaching hospitals ranged from 2.03% to 3.12%.

To achieve the 25th percentile TOH would have to reduce Materials Management operating costs by approximately $5.5 million (including 113.7 FTEs). This represents approximately a 38% reduction in FTEs and net operating costs.

While the order of magnitude of these reductions appears extreme the following points need to be considered:

- TOH has yet to restructure materials management services and gain from economies of scale and standardization. In essence three materials management services are in operation. For example, maintaining 3 inventories on three campuses is currently supported by 3 sets of stores/receiving staff, 3 buyers (one for each inventory), 3 assistant buyers (one for each buyer), 3 purchase orders, etc. This has an impact on Accounts Payable processing as well.
- The Johnson & Johnson Consulting Services operational review confirms that there are significant opportunities to improve operations and cost effectiveness of the SPD processing services. An internal working group is currently reviewing and analyzing this report and confirming potential savings opportunities for Senior Management in March 2001.
- TOH anticipates that the redevelopment of the entire supply chain management process, from requisition through to accounts payable, will incorporate features such as electronic commerce and automated ordering and will lead to significant restructuring. The detailed activity based costing analysis currently being conducted by Source Medical is expected to identify specific areas for restructuring.
- TOH's Materials Services Working Group Report (dated July 15, 1998) stated that the Vancouver / Richmond Health Board identified that the hospitals in the Vancouver / Richmond area could achieve a potential target savings in

the range of 4.6% to 8.5% of total purchase costs with an integrated logistics services through the following:

- Volume discounts and purchase rebates (0.8% to 1.7%)
- Standardization (1.7% to 3.4%)
- Supply Chain Efficiencies (0.6% to 1.7%)
- Accounts Payable Integration (0.9% to 0.9%)
- Electronic Commerce – EDI/EFT (0.6% to 1.3%)

Based on TOH's non-labour expenses (excluding depreciation) in 1999/2000 of approximately $137 million this equates to approximately $6.3 to $11.6 million dollars in savings (assuming similar savings potential exists at TOH).

To further support and validate our review and findings we conducted two additional analyses:

- TOH's Materials Management FTEs as a percentage of the total hospital FTEs (Note: this analysis is not sensitive to any external services provided by the Materials Management departments)[140].
- TOH's Materials Management worked hours per non-labour dollar (excluding depreciation) and conversely non-labour dollars per Materials Management worked hour.

Additional Materials Management Comparisons

		% MM FTEs of Total FTEs	MM Wkd Hrs. per Total NL $	NL $ per MM Wkd Hr
TOH	1999/2000	5.02%	0.0037	$ 272
Peer Range 1999/2000	Minimum	3.19%	0.0017	$ 579
	25th	3.39%	0.0022	$ 455
	Median	3.47%	0.0026	$ 386
	75th	3.95%	0.0028	$ 356
	Mean	3.73%	0.0025	$ 419
4 Largest Peer Hospitals	Range	3.38% to 4.70%	0.0017 to 0.0029	$ 579 to $342

Achievement of these peer ranges would result in the following FTE reductions for TOH:

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[140] This is the advantage of using the net cost percentage indicator that excludes the recoveries associated with external services in order to isolate the hospital's materials management costs.

Potential Materials Management FTE Reductions
Operating at Peer Group Ranges

		% MM FTEs of Total TOH FTEs	MM Wkd Hrs. per Total TOH NL $
Peer Range 1999/2000	Minimum	110.5	161.3
	25th	98.5	121.5
	Median	71.7	89.8
	75th	65.1	71.7
	Mean	78.3	99.9
4 Largest Peer Hospitals	Range	99.3 to 19.5	161.3 to 63.99

From the analyses conducted, combined with the on-campus interviews and observations, we conclude that there are significant operational savings available to TOH through the improved supply chain management processes, including the consolidation and standardization of materials management functions and processes (inventories, product standardization, contract amalgamation, etc.).

We have set a materials management net operating cost target of 2.74% of total TOH net operating costs (based on 1999/200 costs and reporting practices). This target assumes that variable non-labour expenses reported in Materials Management remains unchanged (to account for TOH's concerns that the majority of these costs should be allocated to other functional centers). This target remains the highest from amongst the 4 largest peer teaching hospitals and the second highest from amongst all peer hospitals.

This target results in a 45.5 FTE ($1.9 million) reduction, or 15% as compared to the 38% reduction required to achieve the 25th percentile (based on net cost as a percentage of Hospital net costs). The following performance levels would be achieved by TOH:

		Net Costs as % of Hospital Net Costs	% MM FTEs of Total FTEs	MM Wkd Hrs. per Total NL $
TOH	Target	2.74%	4.27%	0.0031
Peer Range 1999/2000	Minimum	1.79%	3.19%	0.0017
	25th	1.97%	3.39%	0.0022
	Median	2.10%	3.47%	0.0026
	75th	2.46%	3.95%	0.0028
	Mean	2.27%	3.73%	0.0025
4 Largest Peer Hospitals	Range	1.79% to 2.54%	3.38% to 4.70%	0.0017 to 0.0029

In comparison to the peer teaching hospitals TOH's Materials Management operating costs would remain the highest. Any regional services TOH offers in the future would lead to increases in external recoveries that would offset some of TOH's materials management operating costs.

This would result in a total Materials Management staffing compliment of 258.1 FTEs (excluding the 59.8 FTEs accounted for in other functional centers) and includes Heart Institute staffing allocations.

TOH Materials Management Target Staffing

	FTEs
1999/2000 Materials Management & Pt. Transport	303.6
Less Improved Efficiencies	- 45.5
TOH Target FTEs	258.1

It is assumed that the Heart Institute's staffing allocation would also realize a reduction in current cost allocation.

It is recommended that:

(83) The Vice President of Finance should aggressively move to implement improved supply management processes and reduce related staffing (45.5 FTEs) to achieve the recommended performance target for Materials Management of a net cost of 2.74% of the total net cost of the hospital.

(84) The Director of Purchasing should establish purchasing targets to achieve an additional $1.2 million in purchase price savings beyond those currently targeted, and target 80% of the previous year's savings for the next 4 years following.

(85) The Director of SPD should improve the inventory turnover to at least 15 times per year, and then continue to increase inventory turnover as appropriate.

6.4.4 Admitting and Registration

The functions of admitting, registration, booking and scheduling at TOH are a combination of centralized and decentralized services, with scope, accountability and responsibility for these functions varying between campuses.

6.4.4.1 *Organizational Design*

A corporate Director of Admitting Services, reporting to the Vice President, Nursing, manages the Admitting Department. Campus Managers, reporting to the Director, are in place at both the Civic and General Campuses to oversee the day-to-day operations of the services. Staff at the General and Civic Campuses report directly to the campus Managers. The Director of Admitting is responsible for managing the day-to-day operations at the Riverside Campus.

A Manager Admitting Systems oversees the corporate functions related to admitting system maintenance, census reporting (census, etc.), and utilization management reporting such as statistical reporting, infection control reporting (tracking outbreaks) both on a routine and and-hoc reporting. The Manager reports to the Director and has no line management responsibilities. This position and the functions provided have a close working relationship with the Decision Support staff within the Finance Department.

There is a strong emphasis on front line empowerment, allowing staff to make operational decisions without requiring supervisory consultation.

6.4.4.2 *Scope of Services*

The Admitting department/service at each campus is responsible for the following scope of services:

General Campus	Civic Campus	Riverside Campus
24 hrs/day, Monday to Sunday	24 hrs/ day; Monday to Sunday	15.5 hrs/ day, Monday to Sunday
• Inpatient pre-admission & admission registration • Inpatient discharge & transfer processing • Emergency patient registration • Bed control management • New outpatient registrations (Day Care, Clinics, Diagnostics & Therapies) • Outpatient scheduling (Pre-Admission & multiple Dx tests) • Surgical bookings (inpatients and day care) • Pre-admission/surgery coordination • Medical Day Care bookings (medical day, pain management, chemotherapy) • After hours patient accounts collection • Reception functions • Ambulance billings	• Inpatient pre-admission & admission registration • Inpatient discharge & transfer processing • Bed control management • Day care registration • Bookings for the pre-admission unit and medical day care • Pre-admission/surgery coordination • Up-front & after hours patient accounts collection • Ambulance billings	• Pre-registration all patients • Outpatient registrations (Clinics, Diagnostics, Therapies) • Outpatient scheduling (Pre-Admission appointments, Dx ordering/scheduling) • Day care bookings (Surgical, Ophthalmology, Day Care) • Medical Day Care Bookings (medical day, pain management, chemotherapy unit); Pre-Visit/Surgery Coordination • Professional Building Support: outpatient registrations (Ultrasound/x-ray bookings; MDS Lab community patients; Neurologist bookings) • Up-front patient accounts collection

Decentralized and distributed functions that are not the responsibility of the TOH Admitting Department include the following:

General Campus	Civic Campus	Riverside Campus
• Obstetrical inpatient admission registrations (only if pre-registered) • Bed Control – some nursing units coordinate transfers • Eye Institute new/repeat patient registrations • Repeat ambulatory care registrations • Repeat Diagnostic & Therapeutic outpatient registrations • Ambulatory Care appointments	• Obstetrical inpatient admission registrations • Bed Control – admitting & nursing units both coordinate transfers and discharges • Emergency Patient Registrations • Ambulatory Care new/repeat registrations & appointments • Diagnostic & Therapeutic Outpatient new/repeat registrations • Inpatient & Surgical Day Care Bookings • Pain Management & Chemotherapy Bookings	• Urgent Care Centre registrations • Ambulatory care appointments

These functions are the responsibilities by the department providing the service.

6.4.4.3 Operations

Factors affecting operations are outlined below:

Occupancy Rates

Ensuring patients are in the most appropriate bed is a high priority for the Admitting Department. High occupancy rates are reducing preferred accommodation revenues and increasing the number of transfers. Off service placements are common due to high occupancy rates, which in turn leads to transfers to the appropriate service (if possible) and to the appropriate preferred accommodation (if possible).

In 1999/00 the transfer[141] activity (excluding newborns) increased from 1998/99 levels as follows:

- Total number of transfers increased by 11%
- Transfers per admission increased by 6%
- Transfers per patient day increased by 9%

The following table provides a comparison of TOH transfer activity as compared to the peer group's reported transfer activity.

TOH Transfer Activity versus Peers

		Transfers per Admission	Transfers per Patient Day
TOH	1996/97	1.60	0.25
	1997/98	1.81	0.26
	1998/99	1.89	0.26
	1999/2000	2.01	0.28
Peer Range 1999/2000	Minimum	0.98	0.13
	25th	1.17	0.20
	Median	1.68	0.26
	75th	1.73	0.27
	Mean	1.50	0.23

The increased transfer activity not only increases and adds complexities to the workload and information processing activities (as well as increases in the amount of paper/forms) of the Admitting department but extends to other areas as well:

- Nursing unit staff who assist in coordinating the transfers

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[141] Intra-facility transfers as reported in the MoH trial balance files. A transfer is recorded when an inpatient is physically moved within a facility from one functional centre to another functional centre within the same patient type.

- Medical staff and others who may be required to travel to different areas to "find" their patients
- Housekeeping who perform terminal cleaning/turnover
- Patient Portering who assist in patient transportation.
- Financial Services needs to track patient accommodation

The department also reported that medical rounds currently occur between 1300 and 1400 hours, well after the 1000 hours discharge policy. Earlier scheduled medical rounds would permit the patients to be discharged by 1000 hours, thereby providing more flexibility in placing new admissions in the correct service/accommodation type bed initially.

Further compounding the flexibility in accessing beds is the inconsistent policy between campuses with regards to male and female admissions. One campus allows males and females to be co-located while the other campus does not.

Standardized Policies and Practices

The Admitting department is in the process of trying to share employees across campuses and have begun moving towards standardization (forms are being merged, bilingual staff/procedures across campuses, etc.).

TOH needs to adopt a standardized approach across the campuses. There is currently differences in "who does what" and "who is accountable for what" across campuses. Some examples include the following:

- Civic Campus's ER Registration Clerks[142] report to the Emergency Department, whereas ER Registration Clerks report the Admitting department.
- Civic Campus's diagnostic areas are able to perform new outpatient registrations whereas the General diagnostic areas can only perform repeat outpatient visit registrations.
- Civic Campus's OBS staff are able to perform all admission processing whereas General OBS staff perform admission processing only for those patients who are pre-admitted
- Civic Campus's ambulatory care areas can perform all outpatient registrations whereas new outpatients are

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[142] ER Clerks were transferred to report under Emergency as part of the Focus Project.

registered in Admitting at the General Campus (expect for the Eye Institute).

Point of service responsibilities and activities should be consistent across campuses. This would enhance education, training and quality issues, increase opportunities for cross-training, provide more flexibility in sharing and rotating staff across campuses and present a vision of an single integrated system to patients and visitors.

Riverside Campus - Professional Building Support

The services provided for the adjacent Professional Building, such as appointment booking and scheduling need to be measured and quantified with the associated costs for these services being recovered. Alternatively these services could be discontinued and staffing reduced accordingly.

Riverside Campus – Central Registry

The services provided by the Riverside Campus staffing represent a one-stop Central Registry service encompassing registration, booking, appointment scheduling, Dx test/exam ordering, etc. for outpatients. These types of services are typically found directly within the ambulatory care areas.

The success of the one-stop service is largely dependent on the Meditech information system for scheduling/booking, online order entry, etc. There were concerns expressed that the loss of the current level of system functionality will directly impact the efficiency of Central Registry operations.

Heart Institute Support

The admitting department currently provides 2.4 FTEs to support the inpatient and outpatient registration processes of the Heart Institute. These individuals are located in the Heart Institute (day shift, Monday to Sunday) and the costs are recovered accordingly.

Services provided in support of the Heart Institute without any cost recovery include the following:

- Off-hours registration
- Emergency admissions
- Transfers between HI & Civic
- Maintenance of bed control system
- Statistical reporting (routine & ad-hoc)

- Admission audits (data completion, insurance verification)
- Notifying family doctors of HI admissions

These are required services for all hospitals and should be charged back accordingly.

Information Systems

Currently there are no linkages from doctors' offices to receive pre-admission information and there is heavy reliance on traditional paper based pre-registration forms.

Admitting personnel do not have system access to patient account information. Patients presenting after business hours to pay bills (without a copy of the bill) are often asked to return during business hours. Up-front collection of payments requires admitting staff to estimate amounts, which then leads to reconciliation later.

Department of National Defense

The Department of National Defense currently leases 5 beds from TOH. The Admitting department reported that there is no recovery of the costs associated with the admitting work related to these beds (admission/discharge/transfer processing and associated reporting).

6.4.4.4 Performance and Staffing

The 1999/2000 MIS Trial Balance File reported 81.26 FTEs. These FTEs are distributed as follows:

- 71.24 FTEs Admitting/Registration Staff (includes 2.44 FTEs for the Heart Institute)
- 9.40 FTEs ER Registration Staff (Civic Campus)
- 0.63 FTEs Discharge Coordination Staff

Comparisons of performance with peer hospitals based on MIS Trail Balance data are difficult due to several factors such as:

- Inconsistencies how hospitals report workload within the Admitting functional centre
- Variations in how services are provided (decentralized versus centralized) and reported (decentralized and centralized) across hospitals
- Scope of services provided by admitting departments varies across hospitals

For purposes of performance comparisons with peer hospitals we use a weighted registration workload unit as follows:

- Inpatient admissions + 10% of all ambulatory care visits (emergency room, day surgery, day care, & clinic visits)

Performance is measured and compared as the total worked hours per weighted workload unit.

TOH's 1999/2000 performance was 1.30 worked hours per weighted workload unit, compared to the 25th percentile performance of 0.81 for the peer group. This high level comparison indicated that TOH performance was slightly better the 75th percentile performance (1.32) of the peer group.

Admitting Productivity Comparisons

		Worked Hrs per Wtd. Wkld. Unit
TOH	1999/2000	1.30
Peer Range 1999/2000	Minimum	0.43
	25th	0.81
	Median	0.95
	75th	1.32
	Mean	1.16

On-campus interviews and observations identified the following operational characteristics:

- The types of services provided by the Riverside staff are typically found and reported in ambulatory care areas/clinics. The Riverside Campus's Central Registry staffing for 1999/2000 was 14.4 FTEs.
- The following one-time project related worked hours were reported in 1999/2000 within the Admitting functional centre:
  - 5,872.5 worked hours associated with SMS, Y2K and Ophthalmology clinic support
  - 2,936.25 worked hours associated with training and orientation related to the data base system

  These one-time project support hours equate to 5.1 FTEs (paid) that are no longer on staff[143].

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[143] These one-time resources were identified through group discussions with the Director and Managers and documented through e-mail transmission to the consultants by the Director (Nov 28, 2000).

- The 0.63 FTE in Discharge Coordination is not the responsibility of the Admitting Department and is not included in the 2000/01 budget.
- The role and scope of services provided by the Manager Admitting Systems (1.0 FTE) are more in line with Decision Support/Utilization Management functional centres.

This represents a total of 21.13 FTEs that, when excluded from the peer performance comparisons, results in a productivity level near the peer group's median percentile performance (0.95 worked hrs per workload unit). Based on the on-campus interviews and given the current scope of functions provided this level of productivity appears appropriate.

The target staffing for the TOH Admitting functional centre is 75.54 FTEs and encompasses the following:

- Riverside Campus Central Registry staffing
- General Campus Admitting/Registration/Booking staff (including ER clerks)
- Civic Campus Admitting/Registration/Booking staff (including ER clerks)
- 1.0 FTE Manager Admitting (should be transferred to the Decision Support functional centre)
- Heart Institute staffing of 2.44 FTE clerks

Overall this represents a net decrease of 5.72 FTEs from the 1999/2000 MIS Trial Balance File reported 81.26 FTEs as follows:

TOH Target Staffing

	FTEs
1999/2000 MIS Trial Balance Data	81.26
Less:	
19999/200 One-Time Staff	-5.72
Total TOH Target Staffing	75.54

This staffing level is in line with the current 2000/01 budget.

It is recommended that:

(86) The Vice President Nursing and Director of Admitting should quantify the costs associated for services (such as statistical reporting, admission

audits, bed control maintenance, etc.) currently provided to the Heart Institute and negotiate the cost recovery of these services or discontinue to provide these services.

(87) The Vice President of Nursing and Director of Admitting Services should quantify the services currently provided to Professional Building adjacent to the Riverside Campus and negotiate the cost recovery of these services or discontinue to provide these services.

(88) The Vice President of Finance should ensure that the contracted arrangement with the Department of National Defense appropriately recovers costs associated with the admitting service.

(89) The Vice President of Nursing and Director of Admitting should develop and implement standardized policies, processes and accountabilities for patient registration across TOH.

(90) The Directors of Admitting and Finance should work together to develop a patient focused service model that integrates front line registration and accounts collection activities.

(91) The Directors of Admitting and Information Systems should work together to develop and implement a plan to extend on-line registration activities to physician offices.

(92) The President and CEO should implement consistent policies across campuses with respect to male and female inpatient room co-occupancy.

(93) The Vice President of Medical Affairs should ensure that medical inpatient rounds are conducted sufficiently early in the morning so that patients may be discharged in accordance with the 1000 discharge hour.

6.4.5 Health Records

The Health Records service at each campus is responsible for the following activities:

- Coding and abstracting records that includes concurrent coding completed on the nursing floors.

- File retrieval and delivery
- Transcription services

With the increased movement of programs across campuses, Health Record Services at the Ottawa Hospital are being challenged by the unavailability of a single Master Patient Index (MPI) and different health record software at each of the campuses results in limited accessibility of patient information.

6.4.5.1 Organizational Design

A Corporate Director of Health Records reporting to the Vice-President of Medical Affairs oversees the Ottawa Hospital Health Records department. Campus Managers, reporting to the Director, are in place at the Civic, General and Riverside Campuses to oversee the day-to-day operations. Management staff are supported by a Corporate Manager for Utilization & Clinical Information, Supervisors at the Civic and General Campuses and two Coordinators.

A Health Records Committee meets on a monthly basis to discuss and develop policies to continual improve services. Communication is strong and all members of the management team seem comfortable with their co-parts.

6.4.5.2 Operations

Disparity in the management of records across all three campuses contributes to additional workload. At the Civic Campus a decentralized approach is used whereby there are separate patient records for inpatient, ambulatory, satellites (women breast centre, nephrology, diabetes, psychiatry, emergency) and necessitate additional staff to maintain records in the local areas. All other campuses use a centralized patient record.

All three campuses have their own database (CPI/ADT) to identify patients and visit history. There is no single Master Patient Index (MPI) for patients. This results in an inability to link records for activity occurring at different campuses and makes tracking of patient charts difficult.

Major findings for the Ottawa Hospital's Health Records department includes:

- Due to the inability to transfer records physically or electronically, portions of the health records are faxed across the campuses. This has increased the amount of work for department's Request of Information group. The patient record should reside at the location where the patient receives service. The implementation of a single unique identifier in September 2001 will allow the hospital to unify and integrate the records into a single record and maintain the record at the campus providing the service.

- Limited filing space results in significant off-campus storage resulting in added workload when retrieving past documents in addition to costly off-campus storage bills. Currently, revenue generated from retrieval are not recovered to the department. Electronic access of information will alleviate workload and support more efficient distribution.
- All 3 campuses operate clinical systems that are unable to communicate with each other. At the General and Civic Campuses, SMS is used while at the Riverside Campus the Meditech system is used. As systems do not talk to each other, a number of bandages have been created resulting in increased workload. Plans to move to an SMS platform is currently being reviewed with integration projected to take 18+ months.
- Release of Information (ROI) services provides information both internally and externally. In May 1999, senior management decided to implement a limited faxing approach to transmit pertinent documents to the appropriate campuses on demand. With the significant patient transfer, and resulting increases in faxing, no additional staff has been allocated to health records. Faxing of information also has the potential to impact patients' quality of care, as necessary information may not be available/readable. Adoption of a standard clinical system platform and electronic distribution of information will reduce the need for faxing. However an electronic record is several years away and consideration should be given to having the patient record follow the patient.
- Difficult to entice medical transcriptionists and health record associates due to lack of local training. This results in expending excessive time to train a new staff member since they do not have a lot of experience. Options to consider include contracted services and at home transcription (Note: external transcription services do not need to be located in Ottawa).
- A common Dictaphone transcription system was implemented across campuses as a result of the merger and address Y2K concerns, however significant implementation

problems and periods of downtime have contributed to a large backlog in workload. The department reported that there is currently a 21-day turnaround for dictation services at the Civic Campus as compared to the 24 – 48 hour turnaround at the General Campus (the department has recently caught up to the workload at the General Campus through the use of overtime). The creation of this transcription backlog would appear to relate to restructuring directives and the added resources/costs required to eliminate it may qualify for MoHLTC restructuring reimbursement.

- There are currently inconsistent policies in place across physician groups for the use of transcription services. For example, physicians from the Riverside and Salvation Army Grace Hospitals are able to dictate histories and physicals where as these are not dictated in the academic setting. The Vice-President of Medical Affairs[144] is the process of developing and recommended a consistent policy across all physician groups.
- While the current concurrent coding practices established on most floors may result in more complete charting and improved turnaround, this practice is also more labour intensive. Discontinuing this practice may have been warranted given TOH's current financial situation, however we believe these processes will assist in facilitating and supporting achievement of the clinical efficiencies identified elsewhere in this report.

6.4.5.3 Performance and Staffing

The 1999/2000 MIS Trial Balance File reported 137.20 FTEs. TOH's subsequent review of their MoHLTC reported data during this operational review resulted in addition of 16.02 FTEs and costs ($670,759) from Materials Management for patient records & film transportation. The total Health Records FTEs for productivity comparison purposes were 153.22 FTEs.

Comparisons of performance with peer hospitals based on MIS Trail Balance data are difficult due to several factors such as:

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[144] The Vice President of Medical Affairs was given the responsibility of the Health Records Department in August 2000.

- Inconsistencies on how hospitals report health records related workload within the functional center, such as the file pickup and delivery.
- Scope of services provided by health records departments varies across hospitals such as, the degree to which records are centralized or decentralized, consolidation of outpatient and inpatient records and concurrent versus post discharge coding practices, internal versus external transcription services

For purposes of performance comparison with peer hospitals we used a weighted health record workload unit as follows:

- Inpatient admissions + 75% of all same day care services + 25% of all emergency room visits.

Performance is measured and compared as the total worked hours per weighted workload unit.

TOH's 1999/2000 productivity was 1.34 worked hours per workload as compared to the 25th percentile performance of 1.13 for the peer group. This high level comparison indicated that TOH performance was slightly better the median performance (1.32) of the peer group.

Health Records Productivity Comparisons

		Worked Hrs per Wtd. Wkld. Unit
TOH	1999/2000	1.34
Peer Range 1999/2000	Minimum	1.01
	25th	1.13
	Median	1.32
	75th	1.71
	Mean	1.42

To achieve the 25th percentile for the entire peer group TOH would have to reduce Health Records staffing by 23.6 FTEs (15%) and approximately $1.0 million in salaries and benefits. Review of individual peer hospitals performance indicated that those peers at or below the 25th percentile were teaching hospital operating one a single campus. London Health Sciences Centre, a multi-campus large teaching was operating slightly above the 25th percentile (within 2%).

We believe that the Health Records department should be able to achieve the 25th percentile level of performance through changes in practices associated with the system implementation currently underway, specifically:

- A single Central Patient Index and Admission Transfer System completed by September 2001.
- Diagnostic Imaging PACS technology rolled out over the next 5 years.
- Corporate Laboratory and Diagnostic Imaging Information systems implemented by September 2001.
- Implementation of a clinical information system (OACIS) including a data repository and integration of data of different types from various sources (data and picture) rolled out from September 2000 to March 2002.

Health Records, through changes in operational practice, should realize significant improvements in efficiency upon implementation of these systems that will eliminate the need to fax information internally, reduce workload associated with file retrieval/transportation (currently 16 FTE are required for transportation and pickup of records and film), allow chart information and films to be maintained/viewed electronically, and index patients via a Central Patient Index. Currently they are operating at the median peer group, but should strive for the 25th percentile.

TOH should also consider transferring to Health Records the resources currently managed by SPD for the delivery and pick-up of patient charts and x-rays (16.02 FTEs). Integration of these resources with current Health Records staff would provide the department with more flexibility in staff organization, mix and in operational processes.

Based on the 25th percentile the TOH Health Records department target staffing would be 129.66 FTEs calculated as follows:

TOH Health Records Target Staffing

	FTEs
1999/2000 Health Records	153.22
Less Efficiencies to be realized	- 23.56
TOH Target FTEs	129.66

It is recommended that:

(94) The Director of Health Records should investigate alternative approaches to transcription services, such as external service providers and at-home transcription.

(95) The Director of Health Records should quantify the additional costs/resources required to eliminate the Civic Campus transcription backlog created as a result of implementing a common transcription system across the three campuses.

(96) The Vice President of Finance should seek MoHLTC restructuring reimbursement related to the costs/resources required to eliminate the Civic Campus transcription backlog.

(97) The President and CEO should transfer the 16.0 FTEs currently under SPD Management to Health Records.

(98) The Vice President of Medical Affairs and Director of Health Records should undertake the development and implementation of new policies, procedures and staffing requirements as a result of implementing new systems.

(99) The Director, Health Records should develop a plan for unifying and integrating records from across campuses into a single TOH record (maintained at the campus where service is provided) and to be rolled out as the single Master Patient Index is implemented.

(100) The Vice President of Medical Affairs should reduce staffing (by 23.56 FTEs) as new systems and operational processes are rolled out to achieve a performance level of 1.13 total worked hours per workload unit.

6.4.6 Housekeeping Services

The Housekeeping department/service at each campus is responsible for maintaining patients rooms, office areas, public areas and clinical support areas.

Housekeeping services provide both routine and periodic cleaning for The Ottawa Hospital. Key priorities for the department include: departmental equipment preventative maintenance and repair program, standardization of practice/staffing requirements, supplies standardization, capital plan for equipment requirement and a quality assurance program.

6.4.6.1 *Organizational Design*

A Corporate Director of Hotel Services reporting to the Vice President of Facilities Management oversees TOH Housekeeping department. Campus Managers, reporting to the Director, are in place at the Civic, General and Riverside Campuses to oversee day-to-day operations. Day, evening and night supervisors are in place and are responsible for direct supervision, scheduling, payroll, etc.

Housekeeping services provided at TOH are provided under a corporate structure from three different groups. At the Civic Campus services are provided by TOH staff via the current PSA role and dedicated housekeeping services staff. At the General Campus services are provided by Soluard and at the Riverside Campus services are provide by Aramark. Outsourced housekeeping activities are provided at reduced salary costs.

A good relationship between the Director, Managers, Supervisors and staff is apparent, and is strengthened by a high level of direct communication. The department is in the process of establishing a corporate evaluation framework for all staff.

6.4.6.2 *Operations*

Throughout the merger, facilities have not been maintained due to elimination of periodic and floor cleaning programs. Since the merger, housekeeping has inventoried all practices and has worked closely with infection control and clinical areas to identify best practices. Currently, these best practices have been implemented at the General and Riverside Campuses but not at the Civic Campus.

The following observations are made:

- A standardized service level cleaning frequency has been established.
- Overall housekeeping services have realized a 13% increase in space as compared to 1998/99.
- A bed discharge housekeeping service has been initiated to work with admitting to facilitate timely turnover of beds. Currently, a total 8.4 FTEs have been added at the General and Civic Campuses. This initiative is intended to reduce unnecessary waits for beds and reduce the time that patients wait in Emergency for beds.

- The Terms of Reference for the Standardization Committee support a partnership with a single supplier that would provide reduced supply costs in addition to additional value-added services and products (e.g., training, dispensing mechanisms).
- Housekeeping has focused on a corporate wide approach by developing standardized protocols for housekeeping services across all campuses (e.g. OR cleaning, decontamination, office space cleaning). This includes working closely with Infection Control and clinical areas to develop appropriate cleaning policies for all areas (e.g., standardization of safety related incidence reports, training requirements, workplace inspections for the corporation).
- Service level cleaning frequencies have been reviewed for all areas resulting in reduced services to office areas, once per week, in order to maintain required services in patient rooms, clinical support areas and public areas.
- Service areas like the Cancer Centre, Loeb and the Heart Institute pay for housekeeping services from separate cost centres.
- Equipment is not considered to be an enabler for savings as equipment was recently purchased from the Grace hospital.
- In the past, the Civic Campus has been under-serviced (e.g., no floor or periodic cleaning program was in place for several years). Current plans to improve services at the Civic include:
- Development of a QA plan that is supported by reviews from both the housekeeping staff and area supervisors.
- Ensuring standards maintained at the General Campus are implemented at the Civic Campus. This is supported by the dissolution of the PSA role as it pertains to housekeeping. This is expected to reduce current FTEs by 13.4 (10 FTEs shifted to dieticians, 2 FTEs to SPD and 1.4 to facilities)[145]. Housekeeping has suggested a need to add 12 FTEs to support the needed routine, periodic, floor cleaning and discharge management programs.
- To ensure appropriate levels of supervision, the Civic Campus is adopting fixed shift supervisors to promote ownership and develop relationships with areas served.

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[145] These FTEs represent the non-housekeeping workload associated with the multi-skilled PSA role.

This should be supported by a move to full time staff assigned to specific functions to improve staff dedication, reduce shortcomings of part-time staff and improve productivity through reduced training costs.

6.4.6.3 Performance and Staffing

The 1999/2000 MIS Trial Balance File reported the following resources and statistics for Housekeeping Services:

- 315.64 FTEs
- $12,089,549 Gross Operating Costs
- $11,957,342 Net Operating Costs (excludes external recoveries, depreciation/equipment)
- 264,378 Square Meters

TOH's subsequent review of their MoHLTC reported data during this operational review resulted in the changes:

- Transfer 1.0 FTE and costs ($33,877) to Materials Management
- Transfer 1.0 FTE and costs ($33,877) to Plant Operations
- Transfer 11.4 FTEs and costs ($430,322) to Food Services

The following restated resources and statistics for patient and non-patient food services were used for performance comparisons:

- 302.34 FTEs
- $11,583,353 Gross Operating Costs
- $11,451,145 Net Operating Costs (excludes external recoveries and depreciation/equipment)
- 264,378 square meters

Housekeeping performance comparisons are based on Housekeeping's net operating cost per square meter. TOH's 1999/2000 performance as compared to the peer teaching hospital range is presented in the following table.

Housekeeping Performance Comparisons

		Net Cost per Square Metre
TOH	1999/2000	$43.31
Peer Range 1999/2000	Minimum	$42.44
	25th	$42.93
	Median	$44.04
	75th	$45.05
	Mean	$48.59

TOH's Housekeeping net cost per square meter is between the 25th and median percentile performance range of the peer group. To achieve the 25th percentile TOH would have to reduce Housekeeping operating costs by approximately $100,000 (including 2.7 FTEs).

The Civic Campus costs the most on a per square footage basis due to the higher cost of Hospital staff as compared to outsourced staff. They also, on a staff basis, cleaned more area than their General Campus counterparts, as presented in the following table:

Campus	Cost per Square Foot	Square Foot per Staff
General	$3.88	8,193
Civic	$4.32	9,912
Riverside	$2.93	11,894
TOH	$4.24	9,006

Housekeeping has identified a need for an additional 12 FTEs to maintain discharge planning support and enhanced services at the Civic Campus. Given that the Civic staff cleans more area per staff than the General Campus (see above table), there would appear to be opportunities to reevaluate the current scope of activities performed by Civic staff and potentially shift resources to support the enhanced activities identified (which are currently performed at the General Campus). There may also be an opportunity to shift resources from the Riverside Campus to the Civic Campus.

No changes to the total 1999/2000 Housekeeping FTEs and operating costs and staffing are proposed. The target TOH Housekeeping FTEs and gross operating costs are 302.24 FTEs and approximately $11.6 million dollars. This includes resource required to support the Heart Institute.

It is recommended that:

(101) The Director of Housekeeping should re-evaluate the current scope of activities and staff allocations across

campuses to identify opportunities to better balance resources across campuses.

6.4.7 Plant Maintenance And Operations

The department provides for the day-to-day operations of the plant and maintenance systems at all three campuses of the Ottawa Hospital. In addition, the Department provides support to the Loeb, the Research Institute, the Cancer Centres and the Heart Institute.

The total area maintained, as estimated by the Director, is identified in the following table:

Facility	Square Meters
TOH (3 campuses)	248,195
ORCC - Civic Campus	6,234
ORCC - General Campus	14,249
LOEB	7,790
Heart Institute and Research	24,606
Total Area	301,074

6.4.7.1 Organization Design

The organizational design in the department seems appropriate. The department is split between maintenance, and redevelopment functions. The primary focus of the review was on the maintenance portion of the functional centre, however consideration was given to the redevelopment.

The director has expressed considerable concern regarding an audit of the Hospital's Compliance with Occupational Health and Safety Standards, reported in "Occupational Health and Safety Due Diligence Audit" completed by Stantec Consulting Ltd. June, 1999. This audit identified several areas where the hospital is failing to comply with legislative safety standards with respect to its workers. Of the 13 recommendations 4 have been addressed, and the remainder are outstanding. Many of these recommendations appear to deal with management processes that are not in place or are not followed. Only one recommendation directly indicated the need for new staff in plant and maintenance and these staff have been added. Given that this report is almost a year old the lack of progress on addressing the Occupational Health and Safety Standards should be of concern to the Board and Senior Management of the hospital.

6.4.7.2 Operations

The Civic Campus is the older campus, requires more maintenance and is inefficient in terms of heat, light and power. The General Campus is newer and more energy efficient however energy is provided under contract with TransAlta and according to the Director the energy costs are approximately $250,000 higher than the energy costs at the Civic Campus. The contract with TransAlta is reported to have several years remaining, but it may be possible to negotiate a better price either by suggesting that the term of the contract be extended based on better pricing arrangements, or by investigating ways to break the contract. The impact of these changes would need to include other Alta Vista Campus organizations that purchase energy from TransAlta.

Although a detailed review of the age and status of the mechanical and electrical equipment at both campuses was not done, the list of equipment identified by the department for replacement in facilities management is significant ($12 Million). Both the Director and the Vice President indicate that a portion of the variable non-labour expense is due to the age of the equipment. This is particularly true for the Civic Campus, but the detailed information provided by the Director indicates significant expenses at all campuses. Similar information was obtained from the director of Biomedical Engineering.

Factors affecting operations are outlined below:

- Duplicate systems for purchasing and financial monitoring. Currently there are three people dedicated to financial monitoring and purchasing functions. The hospital's purchasing department does the execution of the purchase order however the staff in plant and maintenance is responsible for the preparation the order, expediting the order, and determining the appropriate standards. Both the Vice President and the director agree that this is probably a redundant function that could be eliminated if financial reporting was expeditious, and the purchasing process was more reliable. The Vice President indicates that approximately 1/3 of these positions (1 FTE) is dedicated to serving the redevelopment portion and would be required even if finance and purchasing systems function appropriately.
- The Director identified the following issues as key to his department:

- Replacement of equipment is a critical issue particularly at the Civic Campus.
- The salary ranges paid by the hospital make it difficult to attract skilled staff.
- The work order system used in the department needs to be rearranged so that staffing resources can be used in an inefficient manner.
- Recovery of costs for services provided to the LOEB, Research Institute, Cancer Center, and other non-globally funded programs.
- Appropriate allocation of funding for the services provided to the Heart Institute
- Multi Skilling/licensing of staff would enable more efficient maintenance of equipment.

6.4.7.3 Performance and Staffing

The 1999/2000 MIS Trial Balance File reported the following resources and statistics for Plant Operations and Maintenance:

- 121.83 FTEs
- \$20,070,674 Gross Operating Costs
- \$16,946,206 Net Operating Costs (excludes external recoveries, depreciation/equipment)
- 264,278 Square Meters [146]

TOH's subsequent review of their MoHLTC reported data during this operational review resulted in the following additions to the reported resources:

- Added 1.51 FTEs and costs (\$63,036) from Materials Management for internal move of staff
- Added 1.0 FTEs and costs (\$33,877) from Housekeeping
- 248,195 square metres (excluding HI & HIRC, ORCC, Loeb)

The following restated resources and statistics for Plant Operations and Maintenance were used for performance comparisons:

- 124.34 FTEs

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[146] This is as TOH reported to ACAHO HayGroup Benchmarking Comparison of Canadian Hospitals

- $20,171,647 Gross Operating Costs
- $18,015,897 Net Operating Costs (excludes external recoveries and depreciation/equipment related expenses)
- 248,164 Square Meters

In 1999/2000 Plant Operations and Maintenance achieved a performance of $72.59 net operating cost per square meter, compared to the 25th percentile performance of 55.21 for the peer group. This high level comparison indicated that TOH has the highest cost per square meter of the peer group.

Plant Operations and Maintenance Performance Comparisons[147]

		Net Costs per Square Meter
TOH	1999/2000	72.59
Peer Range 1989/1999	Minimum	41.21
	25th	55.51
	Median	59.31
	75th	61.51
	Mean	60.14

To achieve the 25th percentile TOH would have to reduce Plant Operations and Maintenance operating costs by approximately $4.2 million (including 26.92 FTEs). This represents approximately a 22% reduction in FTEs and net operating costs.

Based on discussions with the Director and review of the data presented, it would appear that the 25th percentile is an unlikely target for this area. The Director indicated that the high costs are also the result of the age of the buildings and equipment at the Civic Campus and the volume of services provided to other facilities. Also, there is a need to move forward with ensuring compliance with safety recommendations.

It was also noted that the weather in the Ottawa region as compared with peer hospitals has an impact on the variable non-labor costs and needs to be considered when comparisons are made. The Director has estimated weather conditions in Ottawa could account for approximately $427,000 based on

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[147] Peer data based on 1998/99 data due to incompleteness of statistical data reported by peer hospitals in 1999/2000.

TOH's current heating degree-days and snow removal costs for comparisons purposes.

However, there are potential improvements in the efficiency of the operations. The Director has identified a number of areas were savings could be realized, as follows:

- A business case for co-generation was developed but rejected by senior management, apparently due to a longer than acceptable payback. The Vice President responsible for the area has indicated the issue will be reviewed and resubmitted to Senior Management for this year's budget. As noted earlier the energy costs at the General Campus are higher than might be expected. Potentially non-labour savings of $800,000 per year could be realized.
- Renegotiation of the Trans Alta energy contract could result in savings of approximately $250,000 annually. However the time span for this may be very long.
- Given energy inefficiencies at the Civic Campus a lighting retrofit project was identified, which could lead to savings of approximately $372,000 annually.

The above represent longer-term initiatives that require further analysis. Other potential opportunities that could be pursed in the near term include the following:

- Elimination of duplicate systems in purchasing and financial monitoring ($100,000 savings potential annually)
- Work redesign of the work order system ($150,000 savings potential annually).
- Multi-skilling/licensing of the maintenance teams would enable smaller teams to perform routine maintenance and higher throughput ($250,000 savings potential annually).

However, the Director indicated that resource gains should be directed at ensuring compliance with safety recommendations.

Services are also provided to the Heart Institute and the LOEB Institute, all though the Director is reportedly unaware of any cost recovery of services provided to the LOEB Institute and Cancer Centres. The current departmental recoveries ($1.56 million) reported in the MoHLTC Trial Balance file relate to parking and Student Residences (as reported by the Director), and these resources will be removed by finance in the near future. Staffing levels provided to other organizations are as follows:

Organization	FTE's
ORCC-CC	2.2
ORCC-GC	5.0
LOEB	4.1
HI&HIRC	11.4

Excluding the HI and HIRC, the extra global support to the ORCC and LOEB, is approximately $584,000 (based on the department's average cost per FTE). The cost of the staff to the HI and HIRC are approximately the same ($589,000). In total there is approximately $1.17 million or 19% of salary costs attributable to non-TOH activities that are reportedly not recovered against expenses reported by the department (according to the Director).

Subsequent to our on-site reviews, and the review of our initial findings and draft report with the Steering Committee, TOH has identified that these organizations provide offsetting recoveries of $4.28 million (though not reported in the MIS TB file under this functional centre). This represents a $2.7 million increase to recoveries as currently reported.

Implementation of the short-term initiatives identified would result in a net operating cost per square meter of $59.63 calculated as follows:

Plant Operation and Maintenance Target Operating Costs

1999/2000 Net Operating Costs (excl. Dep / Equip)	$18,015,897
Less recoveries not accounted for in reporting (per TOH)	-$2,715,642
Less Short Term Initiatives:	
Eliminate Duplicate Purchasing/Finance	-$100,000
Work Order Redesign	-$150,000
Cross Licensing	-$250,000
Target Net Operating Cost	$14,800,255
TOH Square Meters[148]	248,195
Target Net Operating Cost /Sq. Metre	$59.63

This level is slightly above the median performance level of the peer group[149].

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[148] Revised square footage provided by TOH following submission of findings reports.

[149] While we have included the revised recoveries as provided by TOH (subsequent to the Project Steering Committee's review of the draft report) the corresponding functional centre from where these recoveries are in fact

The longer-term initiatives identified in the above table need to undergo further detailed analysis to verify each initiative's feasibility and in relation to TOH's overall capital redevelopment requirements. Should all of the longer-term initiatives prove feasible, TOH's Plant Operation and Maintenance functional centre would achieve a net operating costs of $57.91 per square metre, which is between the 25th and median percentile performance levels of the peer group.

We propose that TOH should pursue the shorter-term initiatives related to eliminating duplication, work order redesign and cross licensing of trades people. These initiatives would lead to a $500,000 reduction in operating costs (9.72 FTEs) and result in a net operating cost per square metre of $59.63.

It is recommended that:

(102) The Vice Presidents of Facilities Management and Finance in conjunction with other organization on the Alta Vista Campus, should initiate negotiations with Trans Alta for changes in the contract for energy services.

(103) The Vice President of Facilities Management should review and resubmit the business case for Cogeneration at the Civic Campus to confirm cost benefits and payback periods.

(104) The Vice President of Facilities Management should review and resubmit the business case for lighting retrofit at the Civic Campus to confirm cost benefits and payback periods.

(105) The Director of Engineering and Operation should pursue the short-term initiatives identified in this report and reduce TOH's net operating costs to $59.63 per square metre.

(106) The Vice President of Facilities should ensure that TOH is operating in accordance with the appropriate Occupational Health and Safety regulations.

(107) The Vice President Finance should ensure that external recoveries are properly reported in the

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reported was not provided. In sufficient time and budget precluded any further analysis of the potential impact on this functional centre.

functional centres providing the services as per MOHLTC reporting guidelines.

6.4.8 Human Resources

The Human Resources function at KGH is organized into four major areas:

- Labour Relations
- Occupational Health and Safety
- Recruitment, Selection, Training, Orientation and Official Languages
- Payroll and Benefits.

The ongoing restructuring at TOH has represented significant challenge for the Human Resources department the staff interviewed openly indicated their belief that the departmental workload is at or near the maximum for the current resources.

6.4.8.1 Organization Design

A Vice President of Human Resources is responsible for the TOH human resources functions and is supported with four Directors, each accountable for on the major areas.

There were no problems identified with the current organizational structure, reporting relationships or scope of authority for the department heads. Staff expressed concerns that the department is not always able to fulfill its role at the hospital.

6.4.8.2 Operations

The interviews indicate that the department is functioning primarily in an operational or "fire fighting mode" as a result of the workload caused by the merger. The consolidation of sixteen unions into three bargaining groups, and the addition of 3000 staff to an antiquated payroll system have meant the department was unable to focus on corporate issues such as ensuring that the performance appraisal system is working and up-to-date, staff attendance awareness programs are in place and functioning, etc. In addition, the department went through a downsizing during the merger at a time when traditionally many HR departments ramp up temporarily to deal with these changes.

Facilities and Equipment

The facilities and equipment in use in the department appear old but serviceable. It would appear that space is limited, and intra-departmental communication may be hindered by the space and physical design limitations. However there was no evidence to suggest that that would adversely impact productivity. There was a significant increase in depreciation/minor equipment expense during the 98/99 and 99/00 fiscal years. The Vice President Human Resources has indicated that this was in fact a central expense due to software and related hardware and that the finance department is in the process of reversing this.

Payroll System

The payroll system, which also functions as a human resources information system (HRIS) was purchased in 1984. A custom-built salary budget module was added in 1986. The system has been maintained "in house" since 1988 and at the time of implementation was not intended to serve as an HRIS. There have been problems reported from both human resources staff and other departments with regards to missed pay's, inappropriate pay's, delays in letters of employment, etc. While it is not clear whether these are related to the information infrastructure or to other factors such as the significant number of changes in employment and new hires related to the merger, the current infrastructure appears inadequate to support the volume of work.

While benchmarks on payroll staffing relative to total hospital staff are not available, TOH's payroll and benefits administration staffing appears large and a business case for replacement of the payroll and HRIS systems may lead to staff reductions in this area. Other areas of TOH would also benefit, since other department interviews have indicated that a significant amount of management time is spent in double-checking and troubleshooting problems in payroll and benefits administration.

Impacts of Other Organizations

The department provides services to the Heart Institute, its research center, the LOEB, and the two cancer centers. There are 706 people on the payroll from the Heart Institute and an additional 372 from the research centers. The estimated impact of these on the resource requirements for the department are outlined in the table below:

Human Resource Services provided to other organizations by FTE

	Heart Institute	*Research Institute*
Staffing	1.7	0.3
Payroll	1.5	1
Comp/Documentation	0.7	0.2
Labour Relations	0.8	0.25
Occupational Health Service	1.2	0.25
misc/Clerical etc	0.5	
TOTAL	6.4	2

Based on the average cost per FTE in the department this represents a cost of approximately $500,000 to the department. There is offsetting revenue from the Heart Institute.

6.4.8.3 Performance and Staffing

Human Resources performance comparisons are based on the Human Resources' net operating costs as a percentage of the Hospital's total net operating costs[150].

The 1999/2000 MIS Trial Balance File reported the following resources for Human Resources:

- 87.12 FTEs
- $5,995,440 Gross Operating Costs
- $5,737,165 Net Operating Costs (gross costs excluding external recoveries, depreciation and equipment related costs)

TOH's subsequent review of their MoHLTC reported data during this operational review resulted in the following revisions to the reported resources:

- Transferred 7.06 FTEs and costs ($381,134) to Financial Services for payroll clerks
- Transferred 5.00 FTEs and costs ($344,538) to In-Service Education for Educators

TOH also reported that during the 1999/2000 year a change in reporting practices resulted in all modified work hours traditionally reported in the functional center were this work occurred was transferred to Human Resources for reporting purposes. For 1999/2000 this amounted to a total of 21.36

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[150] Net costs = gross costs less external recoveries and excluding depreciation/equipment related costs.

FTEs and $1,060,706 salary and benefit costs (August 2000 – March 2001). The MoHLTC reporting guidelines for hospitals requires that these hours be reported in the functional center where the work occurs, however TOH is unable to identify which functional centers these resources should be allocated to. Therefore for peer comparison purposes Human Resources restated resources include these FTEs and costs.

The following restated resources for Human Resources were used for performance comparisons:

- 75.06 FTEs
- $5,236,685 Gross Operating Costs
- $5,011,410 Net Operating Costs (excludes external recoveries, depreciation and equipment related costs)

TOH's 1999/2000 performance as compared to the peer teaching hospital range is presented in the following table.

Human Resources Performance Comparisons

		Net Costs as % of Hospital Net Costs
TOH	1999/2000	1.08%
Peer Range 1999/2000	Minimum	0.63%
	25th	0.77%
	Median	0.86%
	75th	1.07%
	Mean	0.93%

To achieve the 25th percentile TOH would have to reduce FTEs by 21.9 FTEs (and non-labour costs by approximately $285,000), resulting in a staffing compliment of 53.17 FTEs. This reduction is reflects the current modified work FTEs of 21.36 FTEs. Exclusion of the modified work FTEs from Human Resources for comparison purposes places the department slightly below the median performance.

The target staffing for TOH's Human Resources Department is 53.70 FTEs (including Heart Institute resources and staffing allocations) as follows:

Human Resources Target Staffing

	FTES
1999/2000 Staffing	75.06
Less Modified Work (NEER)	- 21.36
Target FTEs	47.30

There are no recommended changes to current Human Resources staffing levels.

The Human Resources Department at The Ottawa Hospital is clearly under significant pressure to adequately perform its role within the hospital. Given the significant pressures it is facing in terms of a poor infrastructure, dealing with issues related to the merger of several unions, and working with staff across several campuses it is unreasonable to expect that it will be able to quickly achieve any savings. A reasonable approach would be to expect that the Department develop a plan to significantly improve the level and accuracy of services to the hospital. If an appropriate information infrastructure is in place and systems within the department, particularly forms management are reviewed and revised, this can be done with no increase in operating expense. Once these changes are in place it may be possible for the department to proceed with streamlining its workforce.

We have identified a potential savings opportunity for TOH (not Human Resources) related to the hours and costs reported for modified workers (as reported from August 2000 – March 2001). The performance reviews of TOH functional centres excluded these hours when compared to peer hospitals[151]. Since these hours were not included in the hours required to process the department's workload this would suggest that there are the equivalent productivity savings to be realized in the various departments where the work occurred. We have identified a target of 35% of these hours and costs (to be achieved across the organization) to reflect the reduced productivity of modified workers as compared to regular workers. This is not a suggestion to eliminate the modified worker program at TOH. Rather, it takes account the contribution to processing workload provided by these workers.

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[151] The MoH reporting guidelines for hospitals requires that these hours be reported in the functional center where the work occurs, however TOH was unable to identify which functional centers these resources should be allocated to.

It is recommended that:

(108) The Vice President Human Resources should ensure that modified work hours are captured and reported in accordance with MoHLTC reporting requirements.

(109) The President should ensure that TOH realizes productivity savings based on modified workers providing 35% of the capacity for work of regular staff. This should provide for a staffing reduction of 7.48 FTEs.

(110) The Vice President of Human Resources should develop a business case for the replacement of the payroll system.

(111) The Vice President Of Human Resources in conjunction with stakeholders throughout the organization should undertake a work redesign project to ensure that human resources functions are carried out in a prompt and efficient manner.

(112) The Vice President Human Resources in conjunction with the Vice President in charge of educational services should review the total educational services provided within the hospital.

6.4.9 Finance Department

Finance has undergone significant changes since the merger:

- New CFO, and other senior staff changes
- Consolidated staff from three previous organizations
- Developed new organization structure with Finance organized into four sections. Each section manager reports directly to the CFO. The four sections are:
  - General Accounting (including General Ledger and Accounts Payable)
  - Accounts Receivable
  - Budgeting and Reporting
  - Decision Support
  - Implemented new chart of accounts to replace the three previous charts

- Implemented new financial systems that address both Y2K and consolidation to single system for merger hospital
- Planning and implementing consolidation of finance to the Riverside Campus
- Development of processes to separate Ottawa Heart Institute accounting from TOH

The current organization structure, reporting relationships, and scope of mangers seem reasonable

6.4.9.1 Operations

The finance department has been working through ongoing temporary arrangements to facilities, first to consolidate functional groups at specific campuses (Accounting at General Campus, Budgeting & Reporting at Civic Campus, etc.), and now to full consolidation at the Riverside Campus. Relocation to the Riverside Campus was underway during this review.

The implementation of new financial systems has required training and testing as well as transitional operation of parallel systems. Accounts Receivable continues to be affected by the need to interface with several different patient information systems.

Finance reduced its non-labour costs by 37.5% ($390,120) to $650,416 in 1999/00. To reach the 25th percentile would require a further reduction of $66,753.

Impacts of Other Organizations

TOH provides virtually all of the accounting services for the Ottawa Heart Institute. Although there are charge-backs for some of the functions, it is difficult to determine with much precision the cost to provide these services. The costing that has been established or any refinements to the costing will only be an allocation of cost based on existing cost patterns that represent cost advantage for the Heart Institute, since it would be unlikely to be able to duplicate the functionality with separate systems and staffing.

Because TOH does all of the banking for itself and OHI, it must provide the working capital to support receivables and operating deficits. This represents a drain on already tapped resources.

System Restructuring Implications

Restructuring should cause no long-term additional staffing requirements.

6.4.9.2 Performance and Staffing

There is significant variation in services and activities included in financial data (MIS Trial Balance) reported under Finance. Two of TOH's peers kindly provided additional data to support the staffing analysis. These are two of the hospitals that appeared as Peers @ or Below the 25th Percentile Target. The table below shows staffing by section for The Ottawa Hospital, London Health Sciences Centre and Hamilton Health Sciences Centre. Note that two of the hospitals include payroll under Human Resources. One hospital includes accounts payable with materials management. Variations in staffing reported by traditional finance function suggest that there may still be reporting inconsistencies, at least for general accounting activities.

FTE Staffing by Finance Section

1999/00 Actual			
Section	**Hamilton**	**London**	**Ottawa**
General Management/Support	3.30	5.50	11.00
	9.10	16.70	7.00
Budgeting/reporting	5.50	1.00	7.00
Accounts Receivable	25.20	15.00	27.00
Accounts Payable	18.40	n/a	11.00
Payroll	11.00	n/a	n/a
Decision Support	17.00	3.50	7.00
I.S. or Special Projects		2.00	3.70
Total	89.50	43.70	73.70

Accounts Receivable

An indicator of Non-MOHLTC Revenue per Accounts Receivable FTE was used for a productivity indicator. The results of the comparison are shown in following table. TOH and London recorded similar performance, and much better than Hamilton. TOH potentially could do better once its Accounts Receivable Systems are fully optimized.

Accounts Receivable Productivity

1999/00 Actual	**Hamilton**	**London**	**Ottawa**
Non-MoH Revenues	72,790,073	74,827,995	132,383,118
Accounts Receivable	25.20	15.00	27.00
Non-MOH Revenues per A/R FTE	2,888,495	4,988,533	4,903,078

Accounts Payable

An indicator of Non-Labour Total Hospital Expense per Accounts Payable FTE was used for a productivity indicator.

The results of the comparison are shown in the table below. TOH recorded much better performance than Hamilton in this comparison. Note that London's different approach that combines accounts payable with materials management excludes them from this comparison. Still, that approach is reputed to offer significant productivity benefits (as long as information systems and processes have been changed to fit this approach).

Accounts Payable Productivity

1999/00 Actual	Hamilton	London	Ottawa
Total Non-Labour Expense	119,434,556		142,056,741
Accounts Payable	18.40	n/a	11.00
Non-Labour Expense per A/P FTE	6,491,008		12,914,249

Decision Support

An indicator of Total Hospital Expense per Decision Support FTE was used for a productivity indicator. The results of the comparison are shown in table below. TOH recorded performance was between the other two hospitals

Decision Support Productivity

1999/00 Actual	Hamilton	London	Ottawa
Total Hospital Expense	467,273,544	401,752,924	531,604,062
Decision Support	17.00	3.50	7.00
Total Hospital $ per DS FTE	27,486,679	114,786,550	75,943,437

Management and Other Accounting

An indicator of Total Hospital Expense per Management and Other Accounting FTE was used for a productivity indicator. The results of the comparison are shown in the table below. TOH recorded performance was between the other two hospitals.

Management and Other Accounting Productivity

1999/00 Actual	Hamilton	London	Ottawa
Total Hospital Expense	467,273,544	401,752,924	531,604,062
All other Accounting FTE	17.90	25.20	28.70
Total Expense per Mgt & All other Accounting FTE	26,104,667	15,942,576	18,522,790

6.4.10 Telecommunications

Telecommunications is responsible for information and the main reception functions as well as switchboard and some technical aspects of telecommunications (with IS Technical

Services). The Director reports to the VP Information Systems.

6.4.10.1 Operations

There are three switchboards operating on three campuses, as well as three information/reception desks exist. (volunteers staff two of these). There are distinct telephone numbers for each campus.

Staffs of the three former departments have been merged with cross-training provided. There are difficulties with staff retention, as other organizations seek call centre and switchboard workers. The Director has worked through other issues associated with merger such as cultural change and teamwork.

6.4.10.2 Performance and Staffing Review

Telecommunications performance comparisons are based on Telecommunication's net operating costs as percentage of the Hospital's net operating costs. TOH's 1999/2000 performance as compared to the peer teaching hospital range is presented in the following table.

Telecommunications Performance Comparisons

		Net Costs as % of Hospital Net Costs
TOH	1999/2000	0.60%
Peer Range 1999/2000	Minimum	0.35%
	25th	0.41%
	Median	0.50%
	75th	0.64%
	Mean	0.53%

TOH's Telecommunications net cost percentage is near the 75th percentile performance level of the peer group.

The Director has reduced about 5 FTEs from 1999/2000; four of these were charged to other departments in 1999/2000, although 3.48 of these appear to be included in the MIS Trial Balance data for Telecommunications.

The Director has prepared and presented to Senior Management a business case for unified telephony, including features that other multi-campus hospitals have in place now, such as one number to call, 5-digit dialing, automatic call distribution, use of existing fibre network, call routing, etc. as well as a merged call centre at one campus (ancillary functions would remain at two campuses, such as information/reception, alarm monitoring, other). This proposal requires a one-time cost of $816,000, offset by one-time revenue of $171,000, for a net cost of $650,000. Annual savings are estimated at $328,450 including one FTE reduction; about 6-8 months after implementation, further reductions should be achieved as the benefits of the new operation are realized: estimated at 2 FTEs per Day/Evening shift, 1-2 on Night shift (this works out to 7 worked FTEs assuming one FTE reduction on Nights).

The proposed staffing reductions from 1999/2000 levels are:

- 4.48 FTEs realized this year
- One FTE with the implementation of the unified telephony initiative
- 7.75 FTEs (7 worked FTEs plus benefit hours) beginning with the third quarter of 2001/02, 6-8 months after unified telephony implementation.

In addition, there would be non-labour savings of $293,000 effective 2001/02, related to the unified telephony project, and a one-time net cost of $649,600 (or $216,600 annual depreciation for three years).

These changes would result in net 36.25 FTEs and a net operating cost of $3,360,000 (compared with $3,899,469 in 1999/2000). Excluding the Heart Institute, this would result in 30.24 FTEs, which is near the lowest staffing level for multi-campus Ontario teaching hospitals. Net cost as a percentage of the Hospital's (excluding depreciation) would be reduced from 0.60% to approximately 0.42%, which is at the 25th percentile of peer hospitals.

Finally, there are potential revenue opportunities that the Department could pursue in the longer term (after the unified telephony project is stabilized), such as acting as a call centre for related organizations and physicians.

It is recommended that:

(113) The Vice President Information Systems should implement the Unified Telephony project and reduce FTEs and non-labour expenses to achieve a performance target for Telecommunications a net operating cost of 0.42% of total Hospital net operating costs.

6.5 *Potential Savings in Departmental Operations*

Exhibit 6.5.1 provides a summary of the expected annual operating cost impacts of recommendations, based on 1999/2000 volumes and workloads. Achievement of the recommended performance levels would have resulted in the following operational savings and increased revenues for 1999/2000:

- $12.3 million in labour cost savings
- $13.2 million in non salary expense reductions
- $1.8 million increased revenues/recoveries

Exhibit 6.5.1 Potential Savings in Departmental Operations[152]

Area	Reduction in FTEs	Annual $ Change
Nursing Admin	-10.00	-$661,275
ICU - Med/Surg	-17.84	-$1,188,997
ICU – Neonates	-3.97	-$286,767
ICU - Coronary Care	-1.89	-$133,881
Birthing Program	-6.84	-$457,869
Outpatient ORs	-3.66	-$248,124
Endoscopy	-0.95	-$65,021
Outpatient Clinics	-12.90	-$754,779
Clinical Laboratories	-48.09	-$2,761,081
Diagnostic Imaging	-36.00	-$2,517,000
Registration	-5.72	-$251,184
Health Records	-23.56	-$1,008,184
Telecommunications	-13.23	-$561,660
Information Systems	13.41	$1,536,720
Materials Management	-45.54	-$1,889,557
Plant Maintenance	-9.72	-$500,000
TOH Modified Work Replacement	-7.48	-$371,247
Labour Cost Savings	-233.98	-$12,119,906
Materials Management - Reduced Carrying Costs		-$132,200
Materials Management - Reduce Purchase Prices		-$4,033,920
Diagnostic Imaging - PACS reduction in supplies		-$1,630,000
Biomedical		-$254,000
Telecommunications - Unified Telephony		-$293,000
Information Systems		-$4,152,639
Non-Labour Cost Savings		-$10,495,759
TOTAL REDUCTION IN ANNUAL OPERATING EXPENSES	**-233.98**	**-$22,615,665**
Diagnostic Imaging		$700,000
Ultrasound		$300,000
Biomedical		$150,000
Information Systems		$698,000
Average Annual Additional Revenues		$1,848,000
NET ANNUAL IMPACT		**-$24,463,665**
One-Time Inventory Reduction		
Materials Management		-$1,322,000

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[152] The recommended changes in the cost of Information Systems are discussed in Chapter 9 of this report.

Thus, the net effect of the proposed operational changes will be a reduction in the hospitals net operating losses of approximately $24.5 million per year[153]. (Realization of some of these cost savings and revenue increases will require capital investments.)

In addition a one-time saving from a reduction in inventory of $1.3 million is identified.

Potential Savings in Heart Institute Operations

Also, the following table identifies additional potential savings in 1999/00 in areas that are now operated directly and independently by the Heart Institute, but that were a part of the funding, costs and deficit of The Ottawa Hospital in 1999/00. The functional centres included here are those that could be easily attributed to The Heart Institute and those with potential savings opportunities when compared to the selected peer hospitals.

Exhibit 6.5.2 Potential Heart Institute Operating Cost Savings

Heart Institute		
712604200 Cardiac O.R.	- 26.18	-$ 1,683,655
712100000 Medical Inpatient Services	- 11.10	-$ 798,309
THE HEART INSTITUTE	**- 37.28**	**-$ 2,481,964**

An appendix provides functional center profiles for each of the areas reviewed. These profiles present comparisons of the functional centre's performance relative to the peer teaching hospitals and the impact of the proposed performance targets.

6.6 *Timing of Potential Savings in Departmental Operations*

A 5-year time frame has been identified to fully realize these savings and increased revenues from improvements in departmental/functional centre operations. Exhibit 6.6.1 provides our estimates of the timing of the potential savings opportunities identified in Exhibit 6.5.1.

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[153] These operating cost savings and increases in revenue relate only to changes in departmental operations. They are independent of the potential cost savings from clinical efficiencies. There is an interaction between savings from clinical efficiencies and savings from operational efficiencies that makes the combined effect less than the sum of the impact of the two types of initiatives. The interaction and combine effect will be determined as part of implementation planning.

Exhibit 6.6.1
Timing of Savings

		Timing of Impact				
Area	Annual $	2001/02	2002/03	2003/04	2005/06	2006/07
Nursing Admin	-$661,275	50%	100%	100%	100%	100%
ICU - Med/Surg	-$1,188,997	50%	100%	100%	100%	100%
ICU - Neonates	-$286,767	50%	100%	100%	100%	100%
ICU - Coronary Care	-$133,881	50%	100%	100%	100%	100%
Birthing Program	-$457,869	50%	100%	100%	100%	100%
Outpatient ORs	-$248,124	50%	100%	100%	100%	100%
Endoscopy	-$65,021	50%	100%	100%	100%	100%
Outpatient Clinics	-$754,779	50%	100%	100%	100%	100%
Clinical Laboratories	-$2,761,081	12%	12%	100%	100%	100%
Diagnostic Imaging	-$2,517,000	49%	82%	96%	98%	100%
Registration	-$251,184	100%	100%	100%	100%	100%
Health Records	-$1,008,184	10%	10%	50%	80%	100%
Telecommunications	-$561,660	41%	100%	100%	100%	100%
Information Systems	$1,536,720	107%	100%	100%	100%	100%
Materials Management	-$1,889,557	15%	45%	100%	100%	100%
Plant Maintenance	-$500,000	15%	45%	100%	100%	100%
TOH Modified Work Replacement	-$371,247	15%	45%	100%	100%	100%
Labour Cost Savings	**-$12,119,906**	**26%**	**55%**	**94%**	**98%**	**100%**
Materials Management - Reduced Carrying Costs	-$132,200	30%	100%	100%	100%	100%
Materials Management - Reduce Purchase Prices	-$4,033,920	30%	54%	73%	88%	100%
Diagnostic Imaging - PACs Reduction in Supplies	-$1,630,000	49%	82%	96%	98%	100%
Biomedical	-$254,000	25%	50%	100%	100%	100%
Telecommunications - Unified Telephony	-$293,000	100%	100%	100%	100%	100%
Information Systems	-$4,152,639	100%	100%	100%	100%	100%
Non-Labour Cost Savings	**-$10,495,759**	**62%**	**78%**	**89%**	**95%**	**100%**
TOTAL ANNUAL OPERATING EXPENSE REDUCTION	**-$22,615,665**	**42%**	**66%**	**92%**	**97%**	**100%**
Diagnostic Imaging	$700,000	49%	82%	96%	98%	100%
Ultrasound	$300,000	25%	50%	100%	100%	100%
Biomedical	$150,000	33%	67%	100%	100%	100%
Information Systems	$698,000	100%	100%	100%	100%	100%
Average Annual Additional Revenues	$1,848,000	63%	82%	99%	99%	100%
NET ANNUAL IMPACT	**-$24,463,665**	**43%**	**68%**	**93%**	**97%**	**100%**
One Time Inventory Reduction	-$1,322,000	30%	100%	100%	100%	100%

The following paragraphs provide comments and explanations regarding the timings of savings:

- Nursing Services
  - Nursing staff reductions are targeted for 50% in 2001/02 and 50% in 2002/03
- Clinical Laboratories:
  - 6.0 FTE reductions are targeted for 2001/02 to account for reduced staffing at the Riverside Campus (as reported by TOH).

  - Remaining Laboratory Staffing reductions identified in the EORL project are tied to construction of the new regional laboratory at the General Campus assumed to be completed in 2003/04.
- Diagnostic Imaging:
  - Staffing and supply reductions, increased revenues and implementation expenses are tied to TOH's 5-year implementation of the PACS technology currently underway.
- Admitting/Registration:
  - The hospital reports that the staff reductions presented have already been realized by TOH in 2000/01 and the functional centre is operating at the improved level of productivity/reduced level of staffing.
- Health Records:
  - Staffing reductions are tied to TOH's roll out of improved systems
  - 10% of staff reduction are tied to 2001/02 with the implementation of a single Master Patient Index and unified/integrated physical record
  - Remaining savings are scheduled to be achievable beginning in 2003/04 and are targeted for 40%, 30% and 20% in years 2003/04, 2004/05 and 2005/06 respectively.
- Telecommunications
  - 4.48 FTEs realized in 2000/01 and 0ne FTE with the implementation of the unified telephony initiative are targeted for 2001/02
  - Remaining FTE reductions in 2002/03.
  - Non-labour savings of $293,000 effective 2001/02
- Information Systems:
  - Majority of savings and increased costs/revenues are scheduled for achievement in 2001/02
- Materials Management:
  - Supply chain redevelopment, inventory consolidation and product standardization should begin immediately and is scheduled for completion over a three year time period. Savings are targeted at 15%, 30% and 55% in years 2001/02, 2002/03 and 2003/04 respectively.

  - Inventory reductions are targeted as 30% in 2001/02 and the remaining 70% achieved in 2002/03.
- Plant Maintenance:
  - Reduced costs associated with elimination of duplication, work order redesign and cross licensing of staff are scheduled for achievement over a three year time period. Savings are targeted at 15%, 30% and 55% in years 2001/02, 2002/03 and 2003/04 respectively.
- TOH Modified Work Replacement
  - Represents the equivalent of 35% of the Modified Work Program hours to be realized from productivity efficiencies across TOH (this is not a replacement of the Modified Worker Program). Savings are targeted at 15%, 30% and 55% in years 2001/02, 2002/03 and 2003/04 respectively.
- Biomedical Engineering:
  - Reduced costs associated with increased internal reliance are scheduled for achievement over a three year time period. Savings are targeted at 25%, 25% and 50% in years 2001/02, 2002/03 and 2003/04 respectively.

Exhibit 6.6.2 provides a summary of the expected annual operating cost impacts over the next three years by area. These estimates are based on 1999/2000 volumes and workloads.

Exhibit 6.6.2
Summary of Savings by Year[154]

	2001/02		2002/03		2003/04	
Area	FTEs Actual Impact	Dollars	FTEs Actual Impact	Dollars	FTEs Actual Impact	Dollars
Nursing Admin	-5.00	-$330,638	-10.00	-$661,275	-10.00	-$661,275
ICU - Med/Surg	-8.92	-$594,499	-17.84	-$1,188,997	-17.84	-$1,188,997
ICU - Neonates	-1.99	-$143,384	-3.97	-$286,767	-3.97	-$286,767
ICU - Coronary Care	-0.95	-$66,941	-1.89	-$133,881	-1.89	-$133,881
Birthing Program	-3.42	-$228,935	-6.84	-$457,869	-6.84	-$457,869
Outpatient ORs	-1.83	-$124,062	-3.66	-$248,124	-3.66	-$248,124
Endoscopy	-0.48	-$32,511	-0.95	-$65,021	-0.95	-$65,021
Outpatient Clinics	-6.45	-$377,390	-12.90	-$754,779	-12.90	-$754,779
Clinical Laboratories	-6.00	-$344,489	-6.00	-$344,489	-48.09	-$2,761,081
Diagnostic Imaging	-17.57	-$1,228,296	-29.52	-$2,063,940	-34.61	-$2,418,837
Registration	-5.72	-$251,184	-5.72	-$251,184	-5.72	-$251,184
Health Records	-2.36	-$100,818	-2.36	-$100,818	-11.78	-$504,092
Telecommunications	-5.48	-$232,645	-13.23	-$561,660	-13.23	-$561,660
Information Systems	14.41	$1,600,719	13.41	$1,536,720	13.41	$1,536,720
Materials Management	-6.83	-$283,434	-20.49	-$850,301	-45.54	-$1,889,557
Plant Maintenance	-1.46	-$75,000	-4.37	-$225,000	-9.72	-$500,000
TOH Modified Work Replacement	-1.12	-$55,687	-3.36	-$167,061	-7.48	-$371,247
Labour Cost Savings	**-61.15**	**-$2,869,191**	**-129.70**	**-$6,824,446**	**-220.81**	**-$11,517,651**
Materials Management - Reduced Carrying Costs		-$39,660		-$132,200		-$132,200
Materials Management - Reduce Purchase Prices		-$1,200,000		-$2,160,000		-$2,928,000
Diagnostic Imaging - PACs Reduction in Supplies		-$795,440		-$1,336,600		-$1,566,430
Biomedical		-$63,500		-$127,000		-$254,000
Telecommunications - Unified Telephony		-$293,000		-$293,000		-$293,000
Information Systems		-$4,152,639		-$4,152,639		-$4,152,639
Non-Labour Cost Savings		**-$6,544,239**		**-$8,201,439**		**-$9,326,269**
TOTAL ANNUAL OPERATING EXPENSE REDUCTION	**-61.15**	**-$9,413,430**	**-129.70**	**-$15,025,885**	**-220.81**	**-$20,843,920**
Additional Revenues:						
Diagnostic Imaging		$341,600		$574,000		$672,700
Ultrasound		$75,000		$150,000		$300,000
Biomedical		$50,000		$100,000		$150,000
Information Systems		$698,000		$698,000		$698,000
Average Annual Additional Revenues		**$1,164,600**		**$1,522,000**		**$1,820,700**
NET ANNUAL IMPACT		**-$10,578,030**		**-$16,547,885**		**-$22,664,620**
One-Time Reductions/Investments						
Materials Management - Inventory Reduction		-$396,600		-$925,400		
Termination Allowance		$1,495,215		$1,527,806		$2,169,154
Training, Education & Counselling of Severed Staff		$87,160		$113,194		$172,038
Other Implementation Costs		$0		$0		
MoH Reimbursement of Training & Termination				-$1,345,019		-$1,394,850
Annual One-Time Implementation Costs		$1,185,775		-$629,418		$946,341
Annual Impact Net of Implementation Costs		**-$9,392,255**		**-$17,177,304**		**-$21,718,279**

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[154] Notes:

1. One-Time inventory reductions are assumed to offset added costs for termination.
2. Costs associated with severed staff are calculated for all staff except Diagnostic Imaging and Registrations staff.
3. Termination allowance based on 50% of salaries and benefits (assume average severance of 26 weeks).
4. Training, Education and Counseling based on $2,000 per severed FTE.
5. MoH Reimbursement (85%) occurs the year following restructuring. The total amount shown includes MoH reimbursement to be received in 2007/08.

As can be seen, within 3 years, the hospital should be able to achieve an annual net reduction in operating costs of $22.7 million or 93% of the potential impact identified in this review of operational efficiency.

Over this 3 year time frame TOH would have realized an impact of approximately $50 million. One-time operating costs of implementation over this 3-year time period are estimated at approximately $1.5 million. This will result in a net impact of approximately $48.5 in operating cost savings and increased revenues over this time period.

Changes in costs of labour, supplies and services

With respect to changes in the unit costs of labour, supplies and/or services:

- The projections do not include provisions for wage and benefit increases for expired/new contracts (or compensation review for non-union staff) or for potential wage standardization effects as a result of future consolidation.
- The costs shown represent 1999/2000 dollars. The cost of unfunded inflationary pressures has not been included. All hospitals in Ontario are faced with the ongoing challenge of managing inflationary increases in salaries, supplies and other expenses.

One-Time Operating Costs of Implementation

One-time operating costs included in the analysis presented in Exhibit 6.6.2 are outlined in the following sections.

- One-time cost for termination is based on 50% of the salaries and benefits of the staffing reductions shown. This represents an average termination allowance of 26 weeks (Note that MoHLTC reimburses up to 52 weeks per employee under the policy guidelines for reimbursement of restructuring costs.). Given the extended duration to achieve some of these staff reductions, the some of the savings might be achieved through attrition without the need for severance payments.
- One-time training and counseling costs at termination are based on an average $2,000 per terminated employee
- It has been assumed that the MoHLTC will reimburse one-time costs of restructuring at the rate of 85% in the following year

TOH Estimated One Time Capital Costs of Implementation

Additionally there will be capital cost related to system acquisition and facilities that will be required to facilitate some of the savings.

The following table presents the one-time capital costs of implementation as identified by TOH relative to the savings opportunities recommended in this report. We have not assessed the validity of these estimates and as such these estimates are presented here for information purposes. These costs have not been included in Exhibit 6.6.2.

TOH Estimated One-Time Implementation Costs

Area	One-Time Implementation Costs	TOH Comments
ICU-Med/Surg (General Campus)	?	Renovation and Expansion
ICU-Med/Surg (Civic Campus)	?	Expansion
ICU-Neonates	$150,000	Improved layout of General Campus NICU.
Clinical Laboratories	$17,200,000	EORL capital investment.
Diagnostic Imaging	$19,000,000	PACs capital investment
Health Records	$1,200,000	Automation & other systems improvements
Materials Management	$2,275,000	Investments in infrastructure & systems
Plant Maintenance	$300,000	Work Order redesign investment
Biomedical	$300,000	Work Order redesign investment
Total	**$40,425,000**	

It should be noted that the PACs capital investment includes the cost of acquiring imaging equipment amenable to PACs technology. Experience in other centres suggests that PACs ready technology should be acquired as part of the normal cycle of equipment replacement. It could be argued that the funds required to acquire this imaging equipment has already been at least partially provided through equipment depreciation. Also, EORL as currently conceived is a regional project. The cost should be born by other potential users of the Laboratory. The cost should not be born exclusively by TOH.

7.0 Impact of Subsidiary and Hosted Organizations on The Ottawa Hospital

7.1 Interdependencies with Subsidiary and Hosted Organizations: University of Ottawa Heart Institute, Ottawa Regional Cancer Centre

The University of Ottawa Heart Institute and the Ottawa Regional Cancer Centre and are legal entities governed by their own board of directors. Both organizations have had long-standing historical dependencies with the TOH predecessor organizations for the provision of support and related clinical services unique to the needs of each of these organizations. These interdependencies continue to exist today and provide major challenges related to organizational relationships and agreements.

Ottawa Heart Institute

Until April 2000 the Heart Institute was an entity within TOH, and funding was encompassed within TOH's global MoHLTC funding envelope. The Heart Institute is currently funded directly by the MoHLTC. The Ottawa Hospital has delegated to the University of Ottawa Heart Institute responsibility for cardiac care of TOH patients. TOH and the Heart Institute have worked together to develop a Service Agreement[155], which forms the formal basis of the working relationship between the two.

The establishment of the Heart Institute as a legal entity presents unique operational and risk management challenges. Of specific concern relating to risk and liability management are the following[156] elements of the Service Agreement between the Heart Institute and the hospital:

- "Pursuant to the Public Hospital's Act, the Hospital (TOH) is ultimately responsible for the care of patients and all patients of the Institute are acknowledged to be patients of the hospital." But, "the board of directors of the Institute shall have the exclusive authority to manage all the affairs of the Institute."
- The Director General of the Institute "shall act as CEO of the Institute and shall be accountable to the Board of the

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[155] Service Agreement was signed and dated on November 5, 1999

[156] Based on a review of the Service Agreement dated November 5, 1999

Institute" but the Director General is not accountable to the Board of the Hospital.

- TOH's Medical Advisory Committee will serve as the Heart Institute's MAC and report on the practice of medicine as it affects cardiac services and the activities and responsibilities of the Institute to the TOH board yet TOH's Board has no control over the affairs of the Heart Institute.
- "The Institute shall develop its own by-laws, administrative protocols, systems and networks reflective of the specialty nature of its activities and its leadership role in relation thereto" without need to reference to the bylaws or administrative protocols of the hospital.
- Appointments to the medical staff of the Heart Institute also result in an appointment to the medical staff of TOH.
- Staff appointed to work at the Heart Institute will be employees of TOH.
- While any deficit incurred by the Heart Institute is to be managed by the Heart Institute, the ultimate responsibility of the Heart Institute's deficit resides with the Hospital. Yet, the Hospital is not responsible for the management and operation of the Heart Institute unless it assumes this responsibility if the deficit is not resolved within a specific time frame.

We are concerned that the TOH is accountable for all the activities of the Heart Institute but it has no direct or indirect control over these activities. It can assume management of the clinical operations of the Institute only if the Institute incurs a deficit that is not resolved within a reasonable time frame. The Board of TOH will be made aware of issues of quality of care in the activities of the Institute by the reports of its MAC. However, the TOH Board will have no mechanism to cause corrective actions to be taken to improve the quality of care of its cardiac care patients for whom it has delegated responsibility to the Institute. There is no provision for the hospital to assume management of the clinical operations of the Heart Institute for issues of quality of care or patient safety. The Board of The Ottawa Hospital should establish its right to intervene in the affairs of The Heart Institute and a mechanism to execute this right if it becomes aware of issues of quality and patient safety related to the care of the hospital's patients by the Institute.

We are also concerned that TOH's negotiated financial line of credit encompasses both TOH and the Heart Institute. While the Heart Institute has established separate bank accounts to handle transfers of funds between organizations, as a separate legal entity the Heart Institute should also negotiate and manage its own line of credit.

It is recommended that:

(114) The Chair of the Board of Trustees of The Ottawa Hospital should renegotiate the Service Agreement with the Ottawa Heart Institute to ensure that it has the right and ability to assume the management of the Heart Institute for issues of patient safety and quality as well as for issues related to the Heart Institute's debt.

(115) The CFO of the Heart Institute should negotiate, obtain and manage a separate line of credit to deal with short-term cash deficiencies.

If the efforts of the hospital to rectify these issues are unsuccessful, the Ministry of Health and Long-Term Care should intervene to normalize the situation.

Ottawa Regional Cancer Centre

The current relationships and cost sharing agreements between the ORCC and TOH are unique to the each of the campuses where the Cancer Centre is located. These differences represent the historical agreements and relationships established individually with the Ottawa General and Ottawa Civic Hospitals. This is common practice throughout Ontario, as other Regional Cancer Centres and host hospitals have negotiated agreements unique to their relationships.

The ORCC and TOH are currently in the process of negotiating new cost sharing agreements, however little progress has been made towards a new agreement over the past 8 – 10 months. There remain differences[157] related to the appropriateness of the cost allocations proposed by TOH[158], such as the following:

- Whether or not costs for specific services are within existing TOH funding bases (such as Lab services provided at the Civic Campus) or within ORCC funding (such as Lab services provided at the General Campus).

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[157] Documented in a letter from the ORCC's COO to TOH dated 2000-04-05.

[158] February 29,2000

- The use of markups and minimum cost charges
- Labour benefit cost differences between sites for the same service

We agree that a consistent approach and methodology needs to be adopted regardless of which Campus provides services in support of the ORCC. The recovery of costs should reflect the recovery of actual costs incurred by TOH in providing the service, and not include any provision for profit for TOH.

ORCC funding from Cancer Care Ontario reflects the current historical relationships with TOH's predecessor organizations. As such any increases in cost recoveries from the ORCC under the current model may necessitate increased funding support to the ORCC from the CCO.

The new cancer centers being established (Oshawa, Mississauga and Kitchener) are moving away from the traditional relationship that cancer centers have had with host hospitals in the past, towards a more integrated and collaborative partnership approach. While these integration approaches are still under development and will continue to evolve as these centres become operational, under this model the oncology program in its entirety (inclusive of inpatient and outpatient care) is funded as a whole, eliminating adjustments to the partner hospital's base. From a funding perspective, the major benefit is the consolidation and isolation of funding for oncology services from other hospital funded programs and services.

This model will not eliminate the need for cost allocation bases, rather it will further necessitate the partner hospital to implement and maintain systems that capture resources and costs related to the provision of oncology services separate from other programs and services. TOH and ORCC should consider moving towards this type of more integrated and collaborative partnership model.

7.2 Implications of Subsidiary Organizations for Efficiency and Costs

There is currently no evidence to suggest that the subsidiary organizations are significantly contributing, either positively or negatively, to TOH's financial situation. Our reviews of TOH departmental operations and interviews with departmental staff did not identify any significant operational factors and concerns in providing services to these organizations.

Where services are dedicated in support of these organizations, the tracking of staffing and other resource costs is straightforward. For other services, allocations are used to determine staffing and resource costs. The ability to accurately capture the staffing and resource costs is directly dependant on the validity of the basis used to appropriately allocate staffing and other resource costs. Regardless of the basis used, any cost allocation is at best an approximation of the costs involved. The most appropriate approach is one that provides the fairest approximation of costs in the eyes of the parties involved.

Also the health system is ever changing and as new equipment and processes of delivering health care and services continue to be introduced whatever allocation methodologies are used and agreed to must also be reviewed and updated to reflect these changes. As such, TOH and the subsidiary organizations will need to review and revise all allocations on an annual basis.

It is recommended that:

(116) The Vice President Finance should ensure that the cost allocation bases reflect as accurately as possible only the actual costs of providing services to the subsidiary and hosted organizations and do not include any profit related revenues.

(117) The Vice President Finance should work with the ORCC to develop consistent approaches and methodologies for recovering ORCC related service costs across the campuses of The Ottawa Hospital.

(118) The Vice President Finance together with the subsidiary organizations should review and revise as necessary cost allocation methodologies on an annual basis.

8.0 Findings Related to Facilities Planning and Redevelopment

8.1 Overview of Current Facilities & Implications of Current Facilities for Operations

The Ottawa Hospital is comprised of 3 facilities:

- The Riverside Campus is located on 22 acres of land recently transferred to TOH ownership from the municipality. A private medical office building (housing private physician practices and a private laboratory) is also located on the campus and is linked to the main hospital building. The Riverside campus has been and continues to be converted to an Ambulatory care facility.

  The most significant areas of concern are the operating, procedure and recovery areas. These areas are small, congested and are inadequate for providing quality patient care services.

- The General Campus is located on the Ottawa Health Sciences Campus together with the University of Ottawa, the Royal Ottawa Rehabilitation Centre, Ontario Regional Cancer Centre, Ottawa Health Research Institute and the Children's Hospital of Eastern Ontario (CHEO). CHEO is the only organization from this consortium with direct control/ownership of a specific parcel of land, the other organizations are considered tenants-in-common.

  The General Campus was constructed in the early 1980s and was designed under the Friesen concept. A few of the design features include the following:

  - Patient specific supply servers located at/near patient rooms minimizes the time nurses spend in traveling for supplies. However from a materials management perspective, this model is likely the most costly (both in labour and inventory costs) approach to supply management since there are significantly more supply locations as compared to a traditional model (which use central supply rooms).
  - Specialized ("injection") elevators are used to transport supplies to nursing units thereby by eliminating the need for porters to transport supplies to nursing units (assists in offsetting the added labour costs associated with replenishing the patient supply server).

The structure itself consists of two towers and a podium in the middle, which together promote short distances and straight line of travel.

- The Civic Campus is located on 23 acres of land recently transferred to TOH ownership from the municipality. The Loeb Research Institute, Interns' Residence, the Ottawa Regional Cancer Centre and the Ottawa Heart Institute are also located on the campus.

  Many of the facilities at the Civic Campus are significantly old and dated. The number of buildings and their associated physical layouts present unique challenges for service delivery.

8.2 Implications of HSRC Directions for Facility Development

The August 1997 and July 1998 reports of the HSRC specified directives for the Ottawa General Hospital, the Ottawa Civic Hospital and the Riverside Hospital. The final directives encompassed the following:

- Close the Riverside facility and transfer this activity to the General and Civic campuses
- Consolidate services on the General and Civic sites, and consolidate most tertiary care services, expect those delivered by the University of Ottawa Heart Institute, on the Alta Vista site of The Ottawa Hospital
- $74 million in facility redevelopment and equipment costs were identified
- $50 million in operational savings were identified

The Ottawa Hospital (TOH), created as of April 1, 1998, conducted a feasibility study of the HSRC's two-campus model and came to the following conclusions:

- TOH found the HSRC's 2-campus model was not an optimum model, both clinically & financially. TOH has always maintained that the HSRC did not appropriately account for growth in their projections.
- TOH estimated that the capital costs for the 2-campus model were $166 million as compared to the HSRC's estimate of $74 million. TOH's cost estimates included items not captured in the HSRC's cost methodology, such as $17 million for parking at the General Campus. TOH projected higher costs for redevelopment than the HSRC

had estimated which would also contribute to higher ancillary and furnishings/equipment costs (these costs are based on HSRC's allocation methodology of 23.2% and 15% of total redevelopment costs respectively). TOH also included new MRI machines at the Civic and General Campuses that were not included in HSRC costs.

- In addition to the $166 million TOH also informed the HSRC that the two campus model would require an additional $30 million for municipal infrastructure costs (sewers, roads, etc.) at the Alta Vista site. The HSRC does not consider these costs in their assessment of affordability.
- TOH estimated that the operational savings from the two-campus model were $38.7 million as compared to the HSRC's $50 million target.

Based on the on these conclusions and in discussion with the HSRC, TOH requested[159] that the HSRC consider a proposal that would consider using the Riverside site as an ambulatory care centre, with decommissioning occurring at the Civic site. Having received the HSRC's agreement to consider this proposal TOH developed and submitted a Master Plan and Feasibility Study to the HSRC in September 1998[160]. The key components of this study presented to the HSRC were as follows:

- A 3-campus model was presented as best meeting the needs of the community:
  - The Riverside campus was presented as the "cornerstone" to the success of this model, through the conversion of the campus to an Ambulatory Care Centre. The Riverside would also *"reduce the scope of the redevelopment required at the General and Civic Campuses and ultimately the costs associated with it".*[161]
  - The Civic and General campuses would remain as full service tertiary care facilities, primarily focused on inpatient services.

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[159] August 1998

[160] At the time of Master Plan & Feasibility Study (Sept 1998) submission the Clinical Services Planning Teams for Neurosciences, Vascular Surgery, Thoracic Surgery and Trauma, had not come to an agreement but were anticipated to do so by October 1998.

[161] Page 10, TOH Master Plan and Feasibility Study, September 1998

  - Specialty services would be consolidated at either of the two inpatient campuses

- The 3-campus model's capital costs were estimated at $121 million, which represented savings of $45 million (based on TOH's estimate of $166 million for the HSRC's 2-site model)[162]. The majority of these savings related to no longer requiring a new parking garage at the General Campus, plus no longer requiring relocation/expansion of various services, reduced infrastructure costs and reduced ancillary/equipment costs at the General and Civic Campuses.[163] The Master Plan and Feasibility Study also identified a number of issues that required additional analysis and potentially additional capital investment.[164]
- The 3-campus model would be completed 6 months earlier than the HSRC's 2-site model. This would expedite operational savings of $18 million over 2.5 years versus 4.5 years.
- The 3-campus model would reduce operating savings by $1.7 million ($37.0 versus $38.7 million).
- A balanced budget was presented for 2001/02
- An additional MRI was requested for the Riverside

Following submission of the Master Plan and Feasibility Study (Sept. 1998) the TOH Clinical Planning Teams continued to plan for how and where services would be provided across the 3-campuses. During this time period the HSRC reviewed the TOH submission and subsequently released the Ottawa-Carlton Health Services Restructuring Supplemental Report in January 1999, followed by the release of a subsequent Supplemental Report (including Directions and Advice) in March 1999. The Supplemental Report concluded/confirmed the following:

- The HSRC supported the development of the Riverside facility as an ambulatory care centre, with the consolidation of most elective and some rapid access ambulatory activity at the Riverside. This was supported as an alternative to further redevelopment of ambulatory services at the General and Civic campuses.

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[162] TOH estimated savings consisted of: $57 million in savings at the General; $12 million in savings at the Civic; $24 million of added redevelopment costs at the Riverside, resulting in a net savings of $45 million.

[163] Appendix E Preliminary Detailed Cost Analysis, TOH Master Plan and Feasibility Study September 1998

[164] Page 35, TOH Master Plan and Feasibility Study, September 1998

- Confirmed/directed the consolidation of most tertiary services, except those delivered by the University of Ottawa Heart Institute, on the Alta Vista site of The Ottawa Hospital
- The HSRC revised capital cost estimate for redevelopment of the 3 sites was set at $75.3 million. This represented a cost savings of $3 million from HSRC's revised estimate of $78.3 million for the 2-site model[165].
- The HSRC recommended that further detailed planning be undertaken (internally and with external organizations) to ensure clinical coherence exists between inpatient and ambulatory care services and critical mass is sufficient. The HSRC expressed concerns regarding sufficient critical mass to support proposed three-site availability of some services (such as diagnostics).
- The HSRC accepted that further annual operating savings of $37.1 million would be realized (in addition to $33 million in restructuring to date) for a total of $70.1 million from 1995/96 costs, which were sufficient to more than offset TOH's operating deficit forecasts.
- The HSRC did not approve the need for an additional MRI for the Riverside Campus, as its' need was found to be unsubstantiated.
- The HSRC directed TOH to decommission equivalent or greater amounts of space at the Civic Campus.

As indicated earlier, the HSRC's final directives were received while the TOH planning process continued.

8.3 Plan for Facilities Redevelopment

TOH's planning process continued until June 1999 when campus-specific service plans and configurations where developed. TOH reported that during this planning period (Sept 1998 to June 1999) a significant number of clinical planning teams recommended that all or major components (including both inpatient and outpatient diagnostic and therapeutic activity) of their service should be consolidated on one campus. The teams recognized that this was required in order to maximize *"critical mass, clinical coherence, patient-focused service models, education and research programs"*.

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[165] The HSRC noted that parking would be approximately $8 million less at the Riverside site and that the $30 million in municipal infrastructure costs are not an HSRC consideration in the assessment of affordability.

The Clinical Planning Teams were directed to develop functional programs with respect to their programs and services. During the development of the functional programs TOH adopted a balanced model of tertiary services across the Civic and General campuses. However the Master Plan was not updated nor was the Feasibility Study reevaluated to reflect this new distribution of services across the campuses of The Ottawa Hospital.

The Master Plan and Feasibility Study submission *"was intended to show the merits of a three campus approach to restructuring at The Ottawa Hospital"*. The need to update and reevaluate the Master Plan and Feasibility Study was warranted given the following:

- The findings of TOH's clinical planning teams (subsequent to the September 1998 Master Plan and Feasibility Study) as noted above (the need to consolidate all or major components of their services, including diagnostics on one campus)
- The completion of plans for major programs (Neurosiences, Vascular Surgery, Thoracic Surgery and Trauma) that were in progress at the time of the September 1998 Master Plan and Feasibility Study and were not included in the submission

TOH has indicated that the MoHLTC advised them that a Master Plan was not required and to proceed ahead with functional programming. Not withstanding any directions that may or may not have been provided by the MoHLTC relative to updating the Master Plan, responsibility for planning resides with TOH and the updating of the Master Plan should have been undertaken.

During the course of this operational review the consultants were advised (by TOH) that the service alignments, configurations and operational savings projections of the September 1998 Master Plan and Feasibility Study were not consistent with the functional program that was developed.

TOH completed and submitted its Functional Program to the MoHLTC in April 2000. The Functional Program represents a 7 – 10 year facility redevelopment process, with the initial areas for development (critical care areas, Riverside Campus, consolidation of tertiary care services, regional laboratory) occurring over the first 3 – 5 years. This time frame is significantly longer than the 32-month timetable presented in TOH's original Master Plan and Feasibility Study submitted to the HSRC.

The inability to link the Functional Program with a Master Plan restricts the consultants and the MoHLTC in reviewing and evaluating the appropriateness of the hospital's plans. The MoHLTC has requested TOH to update and resubmit a Master Plan to reflect TOH's entire spectrum of programs and services. We are in agreement with the MoHLTC's request that a TOH wide Master Plan be developed.

Given the inability to link the Functional Program with a Master Plan we offer the following findings with respect to the current plans and work done to date:

- A lot of good work has been done but needs to be organized and the MoHLTC requirements and planning process needs to be followed.
- Existing documentation needs to organized into a comprehensive Master Plan with detailed costing, priorities, construction schedule, and commissioning/decommissioning plans.
- Various consultants have been used to date to support the planning process. TOH's current functional programs identify three different planning consultants[166] and several programs do not identify a planning consultant. Two different cost consultants[167] have been used.
- The construction work that has been done to date is acceptable and TOH has a knowledgeable construction team.
- The development of the North Tower at the General campus appears to be warranted given the following:

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[166] CGI Inc., Agnew Peckham, Fiset-Cortez Inc.

[167] KPMG Management Consultants, Marshall Murray

  - The General Campus, located on the Alta-Vista Health Sciences Campus, is somewhat land-locked which limits consideration of other expansion options. Open land to the south is controlled by CHEO, who TOH reported as unwilling to "entertain expansion" of TOH. (However, subsequent discussions with CHEO indicated that CHEO's Board did not favour TOH's plan to use the land for parking purposes rather than for patient care. CHEO also indicated that there are potentially other patient care uses for that land currently under consideration). There is currently no Alta-Vista Site Master Development Plan encompassing all occupants.
  - The need for an increased number of ICU beds over those originally planned for by the HSRC requires more space
  - The need to continue surgical activity during a needed upgrading of ventilation systems
  - The North Tower allows for smoother phasing-in of operations and should minimize transitional operating costs and service interruptions.
- The SPD relocation to beneath the OR in the North Tower, while improving service to the ORs, may hamper services provided to other areas of the hospital
- The location of the Regional Laboratory in new space to be developed on the podium level of the General Campus leads to inefficiencies in transporting specimens from external organizations. The current location of the Civic Campus laboratory would appear to be better located (street level, reduces traffic in the hospital) to facilitate receipt of specimens from the region (however we did not analyze or assess the actual feasibility of this).
- We are concerned that the proposals for redevelopment of the Civic Campus are not as well planned as the other two campuses. The Emergency Department requires significant redevelopment, which will be highly disruptive to current operations.
- The age of the Civic Campus may result in a number of unforeseen and added costs as redevelopment/renovations proceed. Infrastructure costs may be significantly higher than currently identified in the functional program.
- Redevelopment of operating, procedure and recovery rooms at the Riverside Campus is necessary if it is to be

used as a site for ambulatory surgery. The current facilities are small, cramped and inappropriate to provide quality patient care. These renovations should have been undertaken years earlier by the predecessor hospital.

The consultants share the same concerns that the MoHLTC have expressed to TOH. The lack of a comprehensive Master Plan will result in ad hoc proposals for additional projects in the future.

An example of additional project requests is the IVF program. Subsequent to the submission of the Functional Program TOH has submitted a request to the MoHLTC for capital resources to accommodate the IVF program through the addition of an 8th floor at the Riverside Campus. Review of the Functional Program for Women's Integrated Health identifies that the required space was identified, however these space needs are not found in the site-specific costing templates. Internal planning documents indicate that the IVF Program did not need to be co-located with the other components of the Women's Integrated Health Service and could be located at either the General or Civic campuses. The new planning document submitted to the MOH discusses the importance of co-locating this service with the other components of the program at the Riverside. Development of a complete Master Plan would not have excluded the IVF program.

As such the Functional Programs are only partially completed and need to be completed and co-ordinated with a Master Plan. Other issues that need to be addressed in the Master Plan (many of which were identified by TOH as outstanding items in the September 1998 Master Plan and Feasibility Study) and subsequently the functional program include:

- Clinical priority programs need to be scheduled into the program, not treated as head start projects. This will avoid limiting options in the plans.
- Future potential[168] of consolidating Cancer Centres at the General Campus and departmental impacts.
- Impact of potential Heart Institute expansion/redevelopment on the Civic Campus.
- Impact of potential Royal Ottawa Rehabilitation Centre expansions/redevelopment on the Alta Vista site.

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[168] As discussed with the COO of the Ottawa Regional Cancer Centre

- Additional areas that TOH should consider include the following:
    - Single/central warehouse facility with supporting satellites at campuses
    - Feasibility of centralized SPD processing facilities
    - Feasibility of consolidated food services tray production/assembly

8.4 Fiscal Implications of Capital Plan

Clearly the Functional Program is based on a plan for siting and consolidation of services that is significantly different than what was envisioned by the HSRC. These differences contribute directly to the significant cost variances among the HSRC's projections, the TOH's original cost projections, and TOH's functional program estimates. And the TOH projections include costs that are not included in the HSRC costing methodology.

The MoHLTC has requested TOH to submit a variance template that specifically and clearly identifies development that is a function of and directly linked to the HSRC directives, those that are related to the HSRC directives and those developments that are unrelated to the directives. At the time of the consultant's review, TOH was still engaged in this process.

Given that the HSRC costing methodology does not encompass all of the costs TOH has identified, we provide comparisons between TOH prepared cost estimates in the following table.

TOH Estimates of Facility Redevelopment Costs

Capital Cost Category	TOH Estimate of HSRC's 2-site Model	TOH 3 site Master Plan & Feasibility	TOH Functional Program & Other Cost Estimates[169]
Redevelopment	$148.4 M	$121.0 M	$172.7 M
Parking	$17.7 M	$0.0 M	$23.0 M
Regional Laboratory[170]	$16.7 M	$17.2 M	$17.2 M
IVF Program	$0.0	0.0 M	$2.7 M
Total	$182.8 M	$138.2 M	$215.6 M

TOH functional program and other facility redevelopment costs are $32.8 million higher than the 2-campus model and $77.4 million higher than the Master Plan and Feasibility Study.

A review of the unit costs presented in the Functional Program appeared to be reasonable and thus do not appear to contribute to the higher costs[171]. TOH has reported that the unit costs used for estimating the 2-site model and the Master Plan and Feasibility Study were based on HSRC costing methodologies. The higher costs within the Functional Program therefore are likely attributable to one or more the following:

- Insufficient detailed planning which leads to under estimates of the scope and related complexities of facility redevelopment projects. The costs for program transfers/consolidation were not identified in the September Master Plan and Feasibility Study (though TOH did indicate that these were outstanding issues).
- Increased number of displaced services than originally envisioned
- Increased space being developed results in increased costs
- Capital costs associated with the balanced model of tertiary services across campuses may be more costly than consolidation on one campus. While TOH conducted a

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[169] Other costs estimates encompass parking and IVF program relocation costs as provided by Finance.

[170] Regional Laboratory costs were not included in the original estimate of the 2-site model or the Master Plan and Feasibility Study.

[171] At the time of our review TOH indicated that the cost consultants used for the functional programming costing were Marshall Murray. Since that time TOH has advised us and the MOHLTC that Marshall Murray has indicated that TOH's unit cost estimates are low and that redevelopment costs in the functional program will be higher than currently proposed.

capital cost analysis, supported by an outside consultant[172] comparing the costs of redeveloping Neurosciences at the Civic versus General Campuses and found that costs are within 2% of each other, this report also noted the following:

  - Cost estimates represented the best estimates of hospital management with the assistance of the consultant
  - Costs will be updated
  - Hospital management confirmed that other less costly alternatives are available, though these alternatives do not achieve the "ideal" model

- Ancillary costs are based on 23% of construction costs (consistent with HSRC methodology) which increase as construction costs increase. Note: TOH's recent indication of higher unit costs (as indicated by their cost consultant) than those currently in their functional program will also result in these costs increasing.
- Furnishing and equipment costs have not been subject to detailed requirements/need analysis and are based on 15% of construction costs (consistent with HSRC methodology) which will increase as construction costs increase. Future detailed review of these requirements may result in higher or lower cost estimates.

We are concerned that the costing shown in the documents is not comprehensive and actual costs may exceed the current projections (as recently confirmed by TOH's cost consultants). The financial implications of the current estimates of the cost of redevelopment plan are significant as discussed under the Financial Review section of this report. The hospital could not absorb the financial implications of significant cost overruns.

TOH has made several assumptions with regards to financing this redevelopment:

- Assumption 1: Ministry of Health will provide 70% (excluding parking)

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[172] KPMG Management Consultants, Appendix 3: Projected Clinical Service Distribution, Volume 1 TOH Functional Program, March 2000

  - Not all of the redevelopment plans qualify for the MoHLTC 70/30 cost sharing split, some will be at 50/50 and others will not have any cost sharing. For example, the estimated Regional Laboratory construction costs of $17.2 million includes $1.2 million for a Laboratory Information System, however current MoHLTC policy does not include the costs sharing of information systems. As indicated earlier, TOH is still in the process of determining the category of construction for the redevelopment project.

- Assumption 2: The Ottawa Hospital Foundation will provide $40 million

  A study commissioned by TOH suggested that a fund raising target of only $20 – $25 million could be realized[173]. TOH has assumed that an additional $5 million per year following the campaign could be raised for a total of $40 million.

- Assumption 3: Regional Municipality of Ottawa-Carlton will provide $12 million

  No commitments have been received to date. TOH has assumed that $25 million is a reasonable amount for the Region to contribute to facility redevelopment across all hospitals in the region and that TOH's share of this funding would be approximately $12 million.

- Assumption 4: Working Funds to provide $5 million

  TOH assumed that they would have operating surpluses to help finance the costs. The assumption appears to be based on the MoHLTC covering current and future operating deficits. The functional program states that upon completion of all redevelopment (7 - 10 years) TOH will be positioned to *"fully realize all of the planned service improvements envisioned by the HSRC restructuring process."*

The viability and reality of this plan is questionable given the increasing deficit situation, the lack of a formal commitment from the Region, perhaps overly ambitious fundraising expectations and growing costs associated with the redevelopment process.

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[173] Page 33 Appendix D, The Ottawa Hospital Functional Program March 2000 Executive Summary

8.5 Summary and Recommendations

We support the MOHLTC requests of the TOH to develop a Master Plan, detailed variance templates and updated Functional Programs that support the Master Plan. The Master Plan should include detailed costing, priorities, construction schedule, commissioning / decommissioning plan, and linkages with other organizations located on campuses.

Although TOH is still in the process of determining the appropriate categorization of construction[174] in relation to the HSRC directions, we believe that the overall redevelopment exceeds the HSRC's directions and intent for development on the TOH's 3 campuses. Also, we believe that magnitude of the TOH redevelopment project is not within the TOH's financial capabilities and MoHLTC capital project funding policies.

As such there is a need to reduce the overall scope of the project. TOH needs to develop a prioritized redevelopment plan that allows TOH to move forward with key HSRC directions that are clearly stated (such as Civic Campus's Emergency Department redevelopment) and delays projects that may require changes to these directions (such as the siting of tertiary services at the Civic Campus). This may result in a longer redevelopment plan as opposed to the current 7 – 10 year plan

It is recommended that:

(119) The Vice President Strategic Planning should undertake the development of a new TOH Master Plan that encompasses all current plans for programs and services.

(120) The Vice President Strategic Planning should update the Functional Programs to reflect the new TOH Master Plan.

(121) The Vice President Strategic Planning should ensure that TOH's detailed HSRC variance templates are prepared in accordance with the formats requested by the MoHLTC.

(122) The Vice President Strategic Planning should determine the redevelopment priorities for the

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[174] HSRC directed related and non-related redevelopment projects.

hospital that reflect the HSRC directions and the hospital's realistic financing capabilities.

(123) The CEO together with the MoHLTC and in conjunction with all Alta Vista Health Science Campus tenants should initiate development of an Alta Vista Health Sciences Campus Master Development Plan.

9.0 Information Systems Acquisition and Implementation

9.1 IS Activities and Costs to Date

In October 1998 the I.S. functions from the pre-merger hospitals came together and a CIO was appointed. Since then, the Hospital has conducted activities and made the progress with respect to Information Systems. These activities and progress include:

- Recruitment of management team and other staff members (there has been a high dependence on outside contractors due to difficulties with recruitment)
- Implementation of Y2K plans
- Development of a plan for the integration of systems from the three hospitals, including decisions to discontinue some projects at specific sites (many of the Civic projects) and extend systems from one site to the others
- Movement to common information architecture and technology platforms, including local and wide area networks and a data repository
- Implementation of a Financial, Accounts Receivable and Materials Management (FARMM) system from Oracle
- Implementation of a clinical information system (OACIS) including a data repository and integration of data of different types from various sources.

While the Hospital has accomplished much in the past two years, there have been issues and there continue to be opportunities for improvement:

- The Hospital has spent considerable one-time and operating funds to get through Y2K and achieve some integration and consistency among the sites. Notably, the FARMM system cost $18 – 19 million to implement and in hindsight, there likely were less expensive and equally effective choices[175]. However, the hospital reports that this was the only solution acceptable to stakeholders at the time.

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[175] The decision to proceed with the FARMM initiative was taken prior to the merger to form the Ottawa Hospital. While current Senior Management was not responsible for the decision, they do need to evaluate the cost-benefits and efficacy of FARMM.

- The timing of the merger vis-à-vis Y2K needs and the plans/projects of individual hospitals necessitated quick decision-making, for example: if the hospitals had merged two years earlier, better planning and implementation of integrated systems likely would have reduced costs
- Although some systems are in place for two or three sites, they tend to be separate instances of the same software; the Hospital is planning to merge the databases among sites, to ensure consistency and continuity of data, including unique patient identifiers, and rolling out of the OACIS system to obtain benefits from the use of integrated clinical information
- There are some pre-merger systems slated for replacement, notably the Meditech systems at Riverside
- There are about 12 information systems staff vacancies now, due to difficulties recruiting and retaining people, particularly in light of the high-tech job market in the Ottawa area; while TOH has depended on external contractors in the past to fill vacancies, this dependence is decreasing.

Considering the timing of the merger, the need to achieve integration and communication among the sites, and the issues of Y2K, we feel that the Hospital's past decisions were prudent.

If the Hospital had merged earlier relative to the timing of Y2K fixes there would have been more time to evaluate the situation, prepare plans and implement a strategy for change. The additional time likely would have saved some steps (for example: implement corporate systems in one step rather than separate instances of the same software) and reduced costs (for example: avoided some Y2K system redevelopment and repair).

The Hospital did assess the alternative of extending the Riverside's system to the entire organization, but found this to be unworkable/undesirable due to concerns with functionality, integration/openness of systems, and the timing of Y2K and integration needs. It should be noted that the cost of moving to this alternative likely would not have been lower than the path taken.

The table below provides the history of capital cost expenditures on information systems; the Heart Institute is not included in the 2000/01 budget, but is included in previous years. Capital costs include hardware, software licences, wiring, etc. and other one-time costs such as contracted services and vendor expenses.

Exhibit 9.1
Capital IS Expenditures Past 4 Years

	1997/98	1998/99	1999/00	00/01 Budget	Total
Y2K Administrative Systems	$411,141	$9,193,097	$5,861,539		$15,465,777
FARMM (Y2K Admin in previous years)				$3,000,000	
Y2K Clinical Systems	$1,575,985	$3,782,989	$3,808,430		$9,167,404
New/rolled-out Clinical Systems				$4,334,501	
Y2K Technical Services	$1,916,829	$1,297,503	$1,927,484		$5,141,816
Capital Infrastructure	$465,657	$304,874	$1,220,121	$1,679,785	$3,670,437
Other Projects	$8,061,559	$2,970,181		$140,714	$11,172,454
Total Capital Costs	$12,431,171	$17,548,644	$12,817,574	$9,155,000	$51,952,389
Y2K Reimbursement					-$14,532,426
Net Cost					$37,419,963

Capital costs peaked in 1998/99 as a function of Y2K costs. Y2K costs include reimbursed items, which are less than 50% of the actual costs recorded by the Hospital; the difference is associated with non-clinical information systems.

Operating costs by year are shown in the table below, noting that: the Hospital began amortizing software in 1998/99 (5-year depreciation schedule); the Heart Institute is included in 1996/97 through 1999/2000 data (representing about $1.2 million of net operating costs in 1999/2000).

Exhibit 9.2
MIS MoH Trial Balance (Departmental Reports for 2000/01)

	1996/97	1997/98	1998/99	1999/00	2000/01 Budget	% change from 1996/97
Recoveries $	($1,298,266)	($866,497)	($692,639)	$15,246	($683,000)	-47.4%
Compensation $	$4,925,237	$5,743,133	$7,204,700	$7,547,382	$9,348,101	89.8%
Variable non-Labour $	$1,946,375	$1,919,803	$927,547	$703,122	$899,114	-53.8%
Expensed software (64030) and systems development (65060)	$1,492,423	$554,554	$1,408,048	$2,771,099	$2,195,286	47.1%
Maintenance (71000 and 73000)	$3,107,298	$2,572,741	$2,561,823	$2,411,940	$3,668,740	18.1%
Depreciation/Amort'n/Minor Equip	$1,386,664	$4,380,697	$8,063,777	$12,162,721	$8,010,082	477.7%
Gross Operating Cost	$12,857,997	$15,170,928	$20,165,895	$25,596,264	$24,121,323	87.6%
Net Operating Cost	$11,559,731	$14,304,431	$19,473,256	$25,611,510	$23,438,323	102.8%
Paid FTEs	88.9	105.2	122.6	128.8	146.1	64.4%

Operating costs have changed as a result of several factors:

- Recoveries/revenues in previous years related to selling of services (such as computer time) to other hospitals, which is no longer done; the 2000/01 recovery is related to accounting for the Heart Institute
- Staffing levels have increased as support needs have increased with increasing system size and infrastructure; note that the actual FTEs in 2000/01 will likely be much lower than budget due to staff vacancies (some of which are filled by contractors)
- Depreciation and maintenance costs are driven in large part by capital costs, which peaked in 1998/99 and 1999/00 as a result of integration, infrastructure and Y2K activities. Maintenance costs have increased as new systems come off warranty. Depreciation/amortization costs are beginning to come down as some items have come off of the depreciation schedule.

The capital costs have an impact on the Hospital's available cash and working capital, and ultimately affect interest costs and the ability to borrow. In addition, capital costs affect ongoing depreciation (3 years for hardware, 5 years for software/other) and maintenance costs.

IS operating costs expressed as a percentage of a hospital's net operating costs (net of recoveries, and excluding extra votes) were compared with other hospitals:

Exhibit 9.3
IS % of Hospital Operating Costs

	Equipment / Software	Other	Total
TOH 1996/97	1.42%	1.32%	2.74%
TOH 1997/98	1.78%	1.62%	3.40%
TOH 1998/99	2.62%	1.62%	4.24%
TOH 1999/2000	3.48%	1.66%	5.14%
Peer Hospitals 1999/2000:			
- Sunnybrook and Women's	1.14%	3.89%	5.03%
- Mount Sinai Hospital	3.19%	1.42%	4.61%
- London Health Sciences Centre	2.17%	1.89%	4.06%
- University Health Network	2.19%	1.60%	3.79%
- Hamilton Health Sciences Centre	1.44%	1.56%	3.00%
- Hamilton St. Joseph's	1.05%	1.93%	2.98%
- St. Michael's Hospital	0.70%	1.33%	2.03%

The actual results vary with the completeness of hospital reporting of costs in IS, the timing of significant investments (Y2K, integration, embarking on new strategies/systems) and the depreciation/amortization practices of different hospitals (year basis, items capitalized, etc.). While TOH has the highest percentage among these hospitals in 1999/2000, this is driven by the equipment and software costs[176], which has increased significantly for TOH as a result of capital investments. Capital costs (and related operating costs) at TOH may be affected by the timing of the merger vis-à-vis other hospitals and Y2K; in October 1998, Y2K initiatives in the predecessor organizations had to be abandoned or evaluated as the Y2K and Integration Plan for TOH was developed and implemented in a very tight time frame; organizations that had merged earlier would have had better, earlier opportunities to evaluate Y2K plans and integration needs, and to absorb the costs in earlier fiscal years, although the depreciation/maintenance effects would still be evident in their operating costs today. TOH is at the median for the percentage of other IS operating costs.

9.2 Estimated Future Cost of Information Systems Activity

The future cost of Information Systems is expected to have the following characteristics, and changes from 1999/2000:

- Capital and operating costs are driven by projects, the extent of computerization, and support needed
- Preliminary estimates from the Hospital of capital cost items for 2001/02 (some of which span more than one year) include:
  - $900,000 for infrastructure (network, application servers, new PCs and printers)
  - $2 million in non-discretionary projects (upgrades and replacements including $450,000 for PCs/printers, wiring upgrades ($500,000) software upgrades, mainframe upgrades, and office automation upgrades and e-mail servers); some of these items are deferrals from 2000/01

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[176] Equipment and software costs include expensed software (MIS expense code 64030), software development (65060), equipment expenses (71000 through 79000, excluding 72000 (clinical equipment maintenance)), and some building and grounds expenses where applicable: replacement of major parts (93000), building service equipment (95060), major equipment (95080) and disposal gain/loss (95100). [The 90000 series of expenses are undistributed and do not typically appear in Information Systems functional centres.] "Other" operating costs are everything else, primarily salaries and expenses, and various departmental and sundry expenses such as supplies, communication charges, and travel.

  - FARMM completion ($800,000)
  - E-SMART initiatives ($2.1 million), including extension/enhancement of OACIS and corporate integration of the SMS clinical information system
  - $400,000 during fiscal 2001/02 to implement a corporate version of the laboratory system

- Other potential capital projects for the longer term are being investigated by the Hospital and should be incorporated in appropriate phases of the Strategy; so far, the major project identified is a Picture Archiving and Communication System (PACS, $7 million) used to support digital diagnostic images; other potential projects include workload measurement and case costing, and several smaller projects now being investigated
- Recurring capital needs identified by the I.S. Directors and the consultants include:
  - Replacement of PCs and printers every five years, at an estimated cost of about $1 million per year
  - Infrastructure replacement/upgrading every 3-4 years (typically about $1 million capital cost per year)
  - Upgrades such as office automation software and replacement of some current systems
- We expect that annual capital costs, while ongoing, should stabilize at pre-Y2K levels, although this depends on the specific projects that are incorporated into an IS Strategy for the hospital
- Future potential operating cost reductions include:
  - Review of hardware support contracts (almost $400,000 was identified in 1999/2000; more savings may be available)
  - Software maintenance contract savings as systems are replaced (for example: Meditech replaced by corporate systems), estimated by the Hospital at $313,000 by 2002/03
  - Reduction of 1 FTE related to terminating use of Meditech, as well as $57,000 for annual hardware maintenance (identified by the Hospital)

  - Reduced use of contractors and overtime hours that were required during Y2K and transition (merger) periods, in particular the removal of $945,000 (identified by the Hospital) for 2001/02 as the Oracle support contract expires (staff for internal support were added in 2000/01), and overtime reduction of $200,000 (to move to 1998/99 levels, a target suggested by the consultants)
  - Implementing a consistent desktop configuration (same versions/releases of operating systems and office software), and upgrading these through the network (instead of at the desktop level) is planned for implementation over an 18 month period and will free up about 4 support technicians (identified by the Hospital); however, these freed-up positions will likely be needed by that time for ongoing support of the extended/expanded corporate systems
  - As a result of the above opportunities, the Hospital should target operating cost savings of about $1.15 million for reduced use of contractors and overtime in 2001/02, and a further $400,000 for cancelled maintenance contracts effective for 2002/03
- Cost sharing arrangements (recovery of $683,000 in 1999/2000) with the Heart Institute (HI) should be reviewed in the context of systems used by HI, degree of support and shared costs; the recovery from the HI may increase as a result.

The Hospital's future plans are oriented to specific projects, investigations and needs, while ensuring corporate consistency and improvements to infrastructure including communication and systems integration. While these appear to be good plans, it is critical for the Hospital to develop a dynamic strategy for information resources that links information and technology plans to business plans and sets a long-term general direction for information systems objectives[177].

For future costs targets, we suggest that the Hospital should plan for spending of $6-9 million in any given fiscal year. This level of expenditures would provide for ongoing upgrades/replacements and infrastructure improvements, as well as new systems and projects (which depend on the IS

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[177] We understand that a IS strategic plan is being developed. This process should be expedited because of the importance of IS to the success of the merger and the operations of the hospital.

Strategy), and to maintain an appropriate level of investment in IS to produce returns and benefits for the Hospital.

Based on the above findings and targets, we believe that future operating costs (in 2000/01 dollars) can be reduced. Future spending should be based on reducing the 2000/01 budget of $23.4 million ($18.45 million after offsetting revenues for Y2K are considered[178]). Savings can flow from reductions in contractors and overtime of at least $1.15 million in 2001/02, by another $400,000 from reductions in maintenance contracts in 2002/03 and by approximately $60,000 from a reduction of 1 FTE in 2002/03 related to Meditech clinical systems. However, this would be offset by increases in FTEs consistent with 2000/01 budget to accommodate decreased use of external contractors/purchased services and overtime. In addition, annual (net of Y2K revenue) depreciation and amortization costs are targeted to remain at the 2000/01 budget amount, as the capital items implemented in 1998/99 and 1999/2000 come off of the schedule. However, there will likely be increased maintenance/depreciation costs as the breadth of software applications increases in the future (dependent on IS Strategy and specific projects). Our targets for operating costs for the next two fiscal years are presented below, including a comparison with 1999/2000 actual costs and FTEs:

Exhibit 9.4
Recommended Future Operating Cost Targets (2000/01 $)

Recommended Future Operating Cost Targets (2000/01 $)	Actual 1999/2000	2000/01 Budget	2001/02	2002/03	2002/03 - 1999/2000	Comments
Recoveries $	$15,246	($683,000)	($683,000)	($683,000)	($698,246)	Potential to increase recovery from HI
Compensation $	$7,547,382	$9,348,101	$9,148,101	$9,084,101	$1,536,719	Fill vacancies to support reduced use of contractors and purchased services. Reduce overtime to 98/99 levels (2001/02); Reduce 1 FTE re Meditech
Variable non-Labour $	$703,122	$899,114	$899,114	$899,114	$195,992	
Expensed software (64030) and systems development (65060)	$2,771,099	$2,195,286	$1,250,286	$1,250,286	($1,520,813)	Reduced contractors, eg. $945,000 per Oracle support
Maintenance (71000 and 73000)	$2,411,940	$3,668,740	$3,668,740	$3,668,740	$1,256,800	May change through reduced contracts and/or more systems in future
Depreciation/Amort'n/Minor Equip net of Y2K Revenues	$7,174,540	$3,021,901	$3,021,901	$3,021,901	($4,152,639)	Fix at 2000/01 level post Y2K
Gross Operating Cost	$20,608,083	$19,133,142	$17,988,142	$17,924,142	($2,683,941)	
Net Operating Cost	$20,623,329	$18,450,142	$17,305,142	$17,241,142	($3,382,187)	
Paid FTEs	128.8	146.1	143.2	142.2	13.4	Reduced overtime and 1 FTE Meditech

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[178] Y2K revenues are amortized over three years, in the Hospital's "Major Equipment" functional centre. This is equivalent to a recovery of depreciation equivalent to $4.988 million in 1999/2000 and 2000/01. After Y2K costs (which are about double the reimbursed amount) are fully depreciated, the offsetting revenue will not exist.

Achieving this level of costs would bring the Hospital's IS % of operating costs (net of Y2K reimbursement) to about 3.9% in 2003/04 (based on current operating costs of $444,592,000) which would be more in line with other teaching hospitals[179]. While there are many variables that affect costs, the Hospital can control future expenditures by continuing to seek improvements to operations and reductions in costs and through an IS Strategy and a focus on implementing the strategy and avoiding ad hoc projects.

9.3 Conclusions and Recommendations

It is important for hospitals to maintain their investments in information and information systems and technology both to enable patient care and other processes and ultimately to support patient-focused service delivery across multiple organizations. Hospitals must ensure that they are leveraging these investments to obtain valuable returns such as more timely and more effective patient care, streamlined processes, e-health (consumer focus and empowerment, overcoming geographic and temporal barriers), improved risk and utilization management. They should also ensure that they obtain financial returns through clinical efficiency and productivity improvement. Specific conclusions of this review include:

- The Hospital has gotten through Y2K, established some good infrastructure, implemented a clinical data repository system (OACIS) which has good potential for clinical benefits (including potential use in a Community Health Information Network), and moved towards improved corporate information systems
- There is much work ahead, including completing the move to corporate systems, completing financial information systems, and developing and implementing a formal Information Systems Strategic Plan to move forward with clinical information systems
- The value for money of the FARMM (Oracle) systems is questionable; however, the systems are now installed (with some completion work) and operational; the Hospital should evaluate the ongoing costs and benefits of this system and ensure that value is obtained for the ongoing investments (for example: support for reengineered

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[179] This parameter could increase for the peer hospitals, as they make investments in IS to support their future businesses.

processes, real-time information to managers, information for decision-making)

- Recent costs have been driven by needs to get through Y2K, improve infrastructure, and move towards a consistent architecture and corporate systems; these costs, particularly capital and depreciation, should decrease and return to pre-Y2K levels
- The Hospital will be developing an IS Strategy to help set future general directions; this should encompass a consumer focus and extramural perspective (for example: longitudinal data shared with other organizations), and be capable of updating on an annual basis as circumstances, priorities and opportunities change
- The Hospital should ensure that information technology is leveraged to provide returns and benefits, such as support for clinical efficiency and productivity improvements, reengineered processes, and integrated health services; this includes evaluating information resources to ensure that full benefits are realized
- There is potential to share information and perhaps systems with other hospitals and organizations in the area, with the main objective of improving patient care; the Hospital is mindful of the need to not appear to be simply wanting to sell services, or take over the health care system
- IS may continue to have difficult recruiting/retaining staff, given the high-tech job market in the Ottawa area

It is recommended that:

(124) The Vice President Information Services should reduce costs as planned related to software maintenance, purchased services and overtime.

(125) The Vice President Information Services should develop a long-term capital plan for IS that reflects high-level needs articulated in an IS Strategy, corporate business plans, and a sustainable, realistic level of ongoing investment in IS (including evergreening of current systems, and implementation of high-priority initiatives).

(126) The Vice President Information Services should evaluate current information resources vis-à-vis value and benefits realized/realizable, and assess the cost-benefits of the FARMM system in particular.

(127) The CEO and Vice President Information Services should ensure that the benefits of IS are planned and realized, with a focus on leveraging IS to bring about improvements in overall effectiveness/ efficiency of the Hospital and health care system.

10.0 Human Resources Implications of Restructuring

10.1 Workforce Adjustment Strategies And Implementation

The Human Resources Department faced a number of challenges throughout the period of merging the three hospitals and the resultant transfers among the campuses. This resulted in an increased number of human resources services and transactions to be provided to a client base of approximately 9,200 employees.

Each division within the HR Department adapted different strategies to support the needs of the client base to the best of their capabilities. The efforts and initiatives of each division to deal with merger related requirements and the related investments are described briefly in the paragraphs following.

10.1.1 Staffing/Training & Development /Official Languages Division

Workload related to recruitment and selection (i.e. transfers, posting and new hires) show an increase of 46% (from 2,832 to 4,136) in the 1998/99 and 1999/00 period, with 28% (1,158) of the transactions representing hiring of new hospital employees. Of these there were 361 nursing new hires in 98/99 (including casual, part-time and full-time status) and 357 in 99/00 (excluding activity related to the Riverside campus for both time periods).

Because of the difficulty in attracting RNs (there is a significant supply demand imbalance between the number of nurses available and the number of nursing positions the need to be filled), the TOH developed a focussed recruitment strategy for nursing. The strategy involves a "signing bonus" and "finder's fee" program for the hiring of part-time or full-time RNs. The "signing bonus" scheme is $2,000 paid in 4 installments:

- $500 upon signing of the letter of offer;
- $500 after the 3-month probationary period;
- $500 after the first year of employment; and
- $500 after the second year of employment.

The "finder's fee" program fosters referrals from within. This means that when a RN (part-time or full-time) is hired through referral, the referring employee receives $700 in four installments:

- $200 immediately following the date of hire;
- $200 after new hire has completed the 3-month probationary period;
- $150 after new hire's first year anniversary; and
- $150 after new hire's second year anniversary.

These programs were implemented in February of 1999. It is too early to comment on the success of the two programs in attracting new nurses to the hospital. But this type of program is commonly used in the Ottawa-Carleton Region by the high tech sector because of the extremely high growth rate. These companies have been using signing bonuses to recruit occupational health nurses.

During this period of high activity, the Division's recruitment and selection area reduced its staff from 21 FTEs to 17.5 (i.e. 17%) as part of an organization-wide downsizing exercise.

The Staffing/T&D/Official Languages Division staff was involved in a number of initiatives emanating from the merger. These included:

- the existing separate orientation courses had to be merged into one Corporate Orientation Course to communicate about the new organization;
- a Second Language Training Program had to be created to support the requirement of operating designated unique services in both official languages in all campuses;
- a Corporate Retention and Long Service Award Program to reward continued service by long service employees through turbulence of the merger; and
- the administration of an evaluation program for bilingualism to assess the capability of employees to deliver the designated unique services.

There was an investment of staff time within the division of approximately $669,500 to support restructuring activities. The following is a listing of these merger-related activities during the period for the division:

Redeployment support, Training & Development costs, retraining for deployed staff between campuses	$5,000
Modifications to recruitment/ staffing forms and applications	$12,000
Corporate Orientation Program development and delivery	$61,000
Corporate Official Languages course development and delivery	$75,000
Development and delivery of Corporate Retention Programs such as Long Service Award (incl. Gift budget of $120K)	$155,500
Desk-top software training, automated training registration, merger of Recruitment database, maintenance	$80,000
Bilingualism evaluation of OH staff (budget for evaluations and follow-up actions)	$175,000
Development of communication materials (e.g. nursing recruitment promotional materials, branding of OH as an Employer)	$18,000
Involvement of staff in workforce adjustment activities (e.g. handling of transfers between campuses)	$88,000
TOTAL:	$669,500

On-going annual costs for these activities are estimated at:

Delivery of Corporate Orientation Program	$20,500
Delivery of OL Corporate Course	$32,000
Administration of Retention Programs	$122,500
Maintenance of Recruitment Database	$3,000
TOTAL:	$178,000

10.1.2 Labour Relations Division

Following the merger, labour relations staff were dedicated to ensuring the proper transfer of staff between programs and campuses and amalgamating the sixteen collective agreements under three main bargaining groups, i.e. ONA, CUPE and

OPSEU. The new ONA collective agreement was signed in January 2000, CUPE was agreed to in November 2000 and collective bargaining for OPSEU is currently underway.

Corporately, grievances filed in 1999 increased by 60% from 1998 (from 241 to 404).;

- In 1999, 35% more grievances were filed under ONA's collective agreement, increasing from 65 to 88 grievances. The main growth was seen at the General campus with an increase of 112% (25 to 53).
- Under CUPE, total grievances filed raised by 115% (123 to 265). All campuses faced significant increases with the Civic having over 103% (92 to 187) more grievances filed and the General, 83% (23 to 42).
- The grievance level activity for OPSEU has remained relatively the same between 1998 and 1999.

The main areas of complaint or dispute were policy interpretation, lay-off/restructuring, and scheduling. A large number were also classified as "others" as they did not fall in the categories of discipline, absenteeism/accommodation, posting/ selection.

Approximately 120 grievances were referred to arbitration thus far in 2000. The large majority will be heard in the next two years. Assuming that each arbitration is heard and settled in 3 days, and that legal fees and related expenses are $5K/day, arbitration costs could amount to more than $1.8M.

The Labour Relations Division also took on a special project in 2000 to develop and implement an attendance management program for the Ottawa Hospital. Between April 1, 1999 and March 31, 2000, full-time employees took over 321 thousand hours of sick leave for a cost of $6.8 million, excluding replacement costs, compared to 261 thousand hours in 98/99 and 257 thousand in 97/98. These figures translate in the following sick leave days taken per FTE:

Sick Leave Days Per FTE (does not incl. sick relief hours)

	Actual 97/98	**Actual 98/99**	**Actual 99/00**	**3 Year Change**
Mgt & Operational Support Personnel	4.40	5.17	5.37	22.0%
Unit Producting Personnel	7.48	6.89	8.37	11.9%
Total:	6.58	6.39	7.42	12.7%

The above data shows an increase of 13% in the number of sick days taken per FTE over the last 3 years. However, the table below indicates that sick time at TOH's is similar to that of other Ontario teaching hospitals and large urban community hospitals as reflected by overall paid sick leave hours as a percentage of hospital total worked hours for 1998/99 and 1999/00[180].

Total Paid Sick Leave Hrs as % of Hospital Total Worked Hrs		
Hospital	**Sick Hrs % 98/99**	**Sick Hrs % 99/00**
Hamilton HSC	N/A	4.16
Humber River	3.89	3.92
London HSC	4.23	3.86
Mount Sinai	3.43	3.62
Ottawa Hospital	**3.37**	**3.84**
Rouge Valley-Centenary	3.82	4.30
Scarborough General	3.30	3.49
SEHSC, Kingston General	3.68	3.89
St. Josephs, Hamilton	3.85	3.77
St. Josephs London	2.97	2.97
St. Michael's, Toronto	3.13	3.71
UHN – Toronto	N/A	3.95

The Division invested approximately $76,000 to support restructuring activities. The following is a listing of the merger related activities and investments between April 1, 1999 and March 31, 2000:

• ONA Bargaining round efforts	$500
• Labour Relations Negotiating Team efforts for ONA	$4,200
• Efforts for Riverside transfers (1100 hrs)	$36,300
• Efforts for Grace transfers (570 hrs)	$18,800
• Efforts for D5/E5 transfers (492 hrs)	$16,200
• TOTAL:	$76,000

10.1.3 Occupational Health & Safety Division

Over the last year and a half the Division faced a high turnover of its staff, losing and having to replace 14 of 20 employees.

In 1999, the Division responded to 36,905 visits of OH staff and it is projected that the visits will reach 43,218 in 2000.

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[180] ACAHO/HayGroup Benchmarking Comparison of Canadian hospitals for 1999 and 2000.

The top three reasons for visits included physiotherapy services (24% of total visits), modified work arrangements for non-WSIB (13%), and TB testing (11%).

Long-term disability claims have increased by 28% (128) in 1999 and had already increased by 33% (170) at the end of June 2000. Of such claims, 37% have been classified as mental disability. A similar trend can be found with employees who received EAP (Employee Assistance Program) counselling or consultative services between August 1, 1999 and July 31, 2000. In fact, 6.1% (487) of the eligible employee population benefited from the services and statistics show that 37.8% of the issues were related to personal or emotional problems. "Of these, 20.6% dealt with stress management, 16.4% dealt with depression, 13.5% dealt with anxiety and 13.3% dealt with burnout."[181]

The total number of accidents at the Ottawa Hospital has increased significantly since 1998 reaching 1,544 in 1999 (14% raise) and it is projected to reach 1,890 in 2000 (20% more than '99). Health care related accidents increased by 88% in 1999 whereas accidents resulting in lost time remained constant over the two-year period. However, the days lost from work related accidents have been diminishing from 772.5 in 1998 to 667 in 1999, thus a 14 % reduction.

There were no specific costs identified and associated strictly to the merger for this Division.

10.1.4 Compensation Division

The large number of recruitment and staffing actions during the period, numerous terminations and severance packages, and the merger of payroll systems for the Hospital have created significant and often times stressful workload for the compensation and payroll staff.

The number of employee separations/resignations rose dramatically after the merger. A total of 1,219 employees left the organization during the 99/00 fiscal year compared to 525 in 98/99 and 596 in 97/98. The General campus saw 558 leave mostly for parental reasons, the Civic lost 517 for reasons that could not be identified, and 144 left the Riverside again for parental reasons or other reasons that have not been identified. Also, there are now only 9 executive (non-medical) level positions remaining from the pre-merger number of over 20 similar positions.

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[181] The Ottawa Hospital Annual Report, August 1, 1999-July 31, 2000 - Report Summary - EAPlus Frequency Distribution Analysis, p. 6.

During the 1999-2000 fiscal year, a total of 208 severance packages (representing 163 FTEs) were provided to employees at a cost of $7.6 million. The average severance cost per employee is $46,842 on an average annual salary of $49,937 and represents 49 weeks of severance. The Ministry criteria for restructuring reimbursement of the hospital for its severance costs was set at 85% of the severance payment for up to 52 weeks of pay provided that the position was abolished from the organization. The following is a breakdown of the severance payments by employee category:

Employee Group	# Packages	Amount ($)
Executives	7	$889,413
Management	61	3,242,817
Non-Unionized	39	1,227,018
CUPE	74	1,666,635
ONA	12	355,982
OPSEU	13	147,378
AAHPO	2	106,023
TOTAL:	208	$7,635,266

10.2 Implications for Unit Costs of Labour

In amalgamating the different collective agreements of the predecessor organizations, the TOH had to decide on the most cost-effective strategy to use in standardizing wages and wage rates across the organization. The hospital sought legal counsel and reviewed of precedent setting decisions in other hospitals in Ontario. TOH decided to follow Arbitrator Quinty's ruling that provides for application of the highest common salary scale for a group of employees and also for the movement of wages of employees that have reached the maximum of their previous salary scale to the maximum of the new common salary scale. In some instances, this may represent an increase in the average wage rate for a group of employees of as much as $2.00 an hour. In a small number of cases the increase is even more for employee groups that have had no economic increase in wages since 1992.

Because ONA contracts have been negotiated centrally, the merger has had limited impact on the unit costs of labour for nurses. However, the Hospital will see an increase in the unit labour cost for CUPE members of approximately 9.89% which represents the cumulative effect of economic increases and standardization in rates of pay. This means that the current average rate of pay of $15.49 will increase to $17.02. It is also estimated that the average retroactive payment to CUPE employees will be in the area of $6,500. As for OPSEU, wage standardization and associated terms and conditions have yet to be negotiated.

The table below describes cost estimates for wage standardization and related increases in working conditions for Ottawa Hospital employees. Estimates are based on FY2001 salary budgets for each of the employee groups.

Related Wage Standardization Costs	Total Lump Sum Cost Estimate	FY 99/00 Cost Estimate	Annualized Cost Estimate
CUPE – $57M Salary Budget (approx. 3,000 employees)			
1. Wage standardization retro payments from Dec 13/99 to March 31/01	11.0M	2.2M	
2. Wage standardization increase to base budget (estimate of 15.5%)			8.8M
3. Potential increase to base budget for LTD benefit and new CA terms and conditions			1.3M
TOTAL:	**11.0M**	**2.2M**	**10.1M**
ONA - $110.5M Salary Budget (approx. 3,000 employees)			
1. Cost of CA Terms & Conditions			1.0M+
TOTAL:			**1.0M+**
OPSEU - $52M Salary Budget (approx. 1,800 employees)			
1. Wage standardization retro payments from April 1/99 to March 31/01 (954 FTEs + 237 Casuals)	13.0M	6.5M	
2. Wage standardization increase to base budget (estimate of 13%)			6.5M
TOTAL:	**13.0M**	**6.5M**	**6.5M**
NON-UNION - $24.1M Salary Budget (approx. 160 employees)			
1. Wage standardization (estimate of 15%)			3.75M
2. Working conditions			Tbd
TOTAL:			**3.75M+**
MANAGEMENT (excl. Exec.) - $16.1M Salary Budget (approx. 300 employees)			
1. Wage standardization (estimate of 15%)			2.5M
2. Working conditions			Tbd
TOTAL:			**2.5M+**
GRAND TOTAL:	***24.0M***	***8.7M***	***23.85M+***

The Total Lump Sum Cost Estimates represent the total estimated amount that should be accrued for the identified period for that cost item. For CUPE, $11M is the estimated wage standardization retroactive payment for a 15 month period. This is based on the assumption that the 3,000 employees may receive between $2.00-3.00 an hour in retroactive adjustments to bring them up to the new common wage level. (This cost is independent of any retroactive economic increases that will also have to be paid).

The third column, FY 99/00 Cost Estimate, identifies those costs that should have been accrued during this fiscal year to provide for wage standardization costs.

Finally, the Annualized Cost Estimate column presents the cost estimates that will affect the ongoing salary budget directly. For example, the anticipated CUPE new terms and conditions of employment reflect changes in overtime pay ($178K), standby pay ($20K) and vacation ($400K), long term disability program ($700K).

Overall, we feel that the approach taken by TOH to estimate the wage standardization related costs has provided a reasonable prediction of the potential cost of wage standardization. If anything, it may underestimate the full cost.

11.0 Financial Review

11.1 Working Capital Position

11.1.1 Background on Financial Data and Sources

The Ottawa Hospital came into being at April 1, 1998 with the consolidation of the Ottawa Civic Hospital (including the Heart Institute), The Ottawa General Hospital, and the Riverside Hospital. For years prior to 1998/99, each predecessor organization prepared its own financial statements and reported individually to the Ministry of Health & Long Term Care. The consolidation required some restatement of equity and liabilities to overcome inconsistencies in reporting of the predecessor organizations. As a result, working funds were reduced at April, 1997 by $16,830,000. Restatement included the following changes

- Reclassification of sick leave payable from long-term to short-term ($12,800,000)
- Reclassification of trust funds from equity to short term liability ($4,030,000).

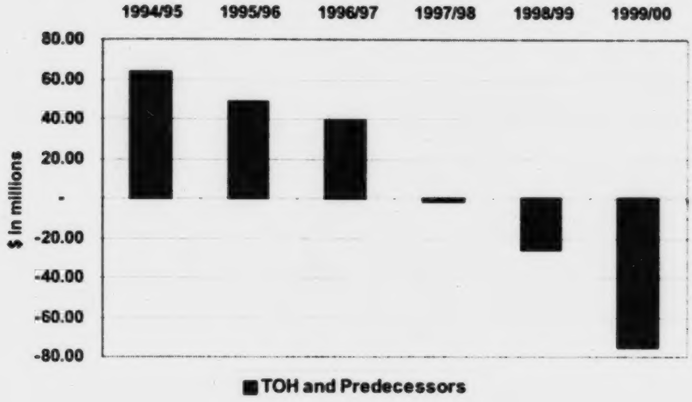
In addition, there was a further adjustment (reduction) of $705,000 based on a restatement of vacation liability from the General that was applied after the beginning of 1998/99.

Also, the Ottawa General Hospital had entered into a capital leaseback arrangement in 1987. Since management appointed the lessors as the payees for the annuities, no obligation had been recorded in the financial statements (the obligation was fully disclosed in the Notes to Financial Statements). The new management of The Ottawa Hospital elected to include both the asset and the liability in the financial statements.

11.1.2 Working Funds

Working Funds have declined dramatically since 1995/96 as shown in Exhibit 11.1

Exhibit 11.1
Ottawa Hospital Closing Position Working Funds
1995/96 through 1999/00



From a consolidated opening balance of $63.17 million, working funds decreased by $121.02 million to a deficit of $75.40 million at the end of 1999/00. The impact by major category is shown in Exhibit 11.2 below.

Exhibit 11.2
Ottawa Hospital Change in Working Funds 1995/96 through 1999/00

	$Millions	$Millions
1995/96 Opening Position Working Funds		**63.17**
Adjustments at Merger		
Reclassification of Sick Leave Payable	(12.80)	
Reclassification of Trust Funds	(4.03)	
Restatement of Vacation Liability (General)	(0.72)	
		(17.55)
Operations		
Operating Deficits	(71.04)	
Restructuring Operating Deficit	(13.25)	
		(84.29)
Capital Acquisition		
Amortization (net)	64.71	
Funds for Capital Purposes - Not in Revenue	35.41	
Gain/(Loss) on Fixed Assets Disposals	0.53	
Purchase of Fixed Assets	(122.69)	
		(22.04)
Financing/Other		
Capital Equipment Lease-backs	(0.10)	
Transfer to/from Foundation or Other Funds	1.06	
Other Non-Cash Charges	(1.32)	
Other Sources and Adjustments	1.42	
Transfer To Heart Institute	(4.55)	
Other Applications	(11.19)	
		(14.68)
Increase(Decrease) in Working Funds		(121.02)
1999/00 Closing Position Working Funds		**(75.39)**

Operating deficits were the largest contributor to the decline in working funds followed by capital acquisition, adjustments at merger, and financing/other applications. The adjustments at merger highlight that despite generally accepted accounting principles two hospitals can account for their liabilities quite differently, impacting this key indicator. Working funds is calculated by netting current assets against current liabilities. A positive answer is good. It is instructive to look at the components of current assets and current liabilities to see how they have changed. Exhibit 11.3 shows changes in current assets and liabilities from 1997/98 (the year before the merger) to 1999/00[182].

Exhibit 11.3
Change in Working Funds 1997/98 Through 1999/00 ($Millions)

CURRENT ASSETS	1997/98	1998/99	1999/00	Change
Cash	-	3.6	3.1	3.1
Investments	20.5	11.0	4.1	(16.4)
Accounts Receivable	29.4	48.5	38.5	9.1
Inventories	6.4	6.0	6.5	0.1
Prepaid Expenses	2.3	2.0	1.5	(0.7)
Capital Purposes & Trust Funds	17.3	0.0	-	(17.3)
TOTAL CURRENT ASSETS	75.7	71.1	53.7	(22.1)
CURRENT LIABILITIES				
Short Term Borrowings	0.9	8.5	41.3	40.4
Accounts Payable	29.6	25.5	29.4	(0.3)
Employee/Employer Remittances Payable	5.2	4.4	16.0	10.8
Accrued Salaries & Wages	26.6	28.0	16.3	(10.4)
Vacation & Other Accrued Benefits	-	7.1	8.4	8.4
Sick Leave Benefits Payable (Vested)	12.8	14.9	13.1	0.3
Unearned Revenues	0.2	0.5	0.6	0.4
Current Portion of LT Debt or Leases	1.9	8.0	4.1	2.1
TOTAL CURRENT LIABILITIES	77.3	96.8	129.1	51.8
Working Funds	(1.5)	(25.7)	(75.4)	(73.9)

This view shows in particular the massive increase in Short Term Borrowings, up to $41.3 million in 1999/00. Other items of note include:

- A steady decline in short term investments
- A $17.3 million decrease in Investments Held for Capital Purposes and Trust Funds that were spent.
- Accrued salaries and wages in 1997/98 included accrued vacation. The change in these categories combined is a net decrease of $2.0 million. Although there was little apparent change, the 1997/98 accrual includes 10 days for payroll year end, while 1999/00 includes no days (the payroll pay period and the financial period end dates matched).

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[182] The source for this comparison was the TOH Year-end Supplementary Report (for 1999/00) and TOH 2000/01 Operating Plan Submission (for 1997/98 and 1998/99). These results exclude the Heart Institute.

11.2 Hospital Operating Deficits

11.2.1 Background on Financial Data and Sources

On April 1, 2000, the University of Ottawa Heart Institute was officially separated from TOH, and MOHLTC funding was redirected from TOH to the Heart Institute. Both TOH and The Heart Institute began reporting their financial results separately beginning with the last fiscal year before separation (Fiscal 1999/2000). In preparing its 2000/01 operating plan, TOH restated its 1997/98 and 1998/99 financial reports to exclude the Heart Institute results. Unfortunately, restatement of earlier years is not practical, since the accounts did not clearly separate the Heart Institute from the rest of TOH operations. The Heart Institute also prepared and submitted a 2000/01 Operating Plan showing revenues and expenses based on the restatement of 1997/98 and 1998/99 results.

MOH Hospital Year End Operating Reports have been used as the source for most figures. Reported Surplus/Deficit differs only from Audited Financial Statements by the amount of building depreciation that is included in the Audited Financial Statements. The reconciliation is included in the Year End Operating Report.

Operating Expenses for 1995/96 and 1996/97 have been restated from the Year End Operating Reports to exclude restructuring costs for consistency with subsequent years.

Comparisons over the specified time period (1995/96 through 1999/00) have been difficult to achieve for several reasons:

- 1995/96 through 1997/98 required combining the results for the three predecessor hospitals: Ottawa Civic, Ottawa General, and the Riverside Hospital
- In 1998/99 the Ottawa Hospital submitted its first combined year-end financial report
- In 1999/00 the Ottawa Hospital year-end financial reports excluded the Heart Institute. Comparisons with previous years required using a restatement of previous years' data to also exclude the Heart Institute
- The restatement of 1997/98 and 1998/99 to separate the Ottawa Hospital and Heart Institute financial reporting seemed to balance at a high level, but we could not reconcile each revenue and expense category individually. There were not sufficient hours in the budget of this

project or in the budget of the TOH finance department to resolve all discrepancies.

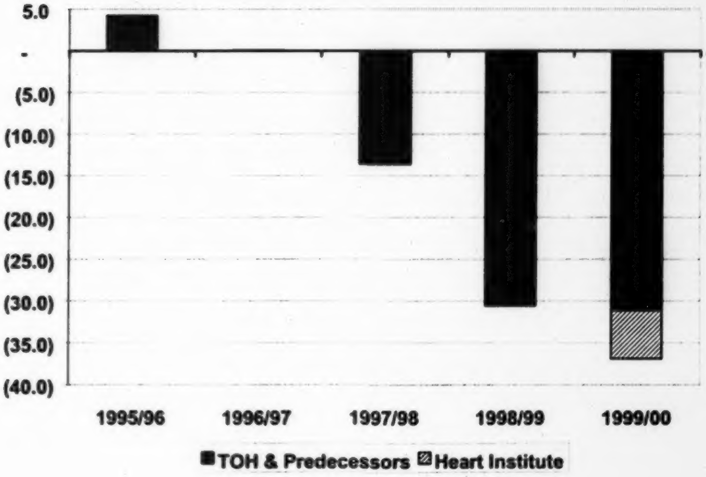
- Finding explanations for certain revenues or expenses or account changes has been made difficult by the high turnover of key finance department staff in the wake of the merger, and apparently poor or inaccessible backup documentation.

This analysis of the past record does not affect the current and future accounting and reporting at the hospital, but the year over year analysis in this report does suffer. Nevertheless, these comparisons do identify large accounting driven changes in results, and the results can provide high-level cost analysis to support the detailed departmental review results.

11.2.2 General Operations

In 1996/97 the Ottawa Hospital's predecessor organizations achieved a virtually balanced combined operating position with a $93,001 operating surplus, excluding one-time restructuring costs and reimbursements. However, in 1997/98 these hospitals recorded a combined operating deficit excluding one-time restructuring costs and reimbursements of $13,644,847, and this operating deficit continued to grow to $31,159,358 in 1999/00 as shown in Exhibit 11.4. Note that this chart includes the results of the Heart Institute for continuity, since earlier years did include its operations.

Exhibit 11.4
Operating Surplus (Deficit) Excluding Restructuring
1995/96 through 1999/00



Following is a high-level year-by-year look at the changes that contributed to the current situation.

11.2.2.1 Fiscal 1997/98 (Changes from 1996/97)

The change in position in Fiscal 1997/98 was driven partly by revenues that were $5,344,802 lower, and partly by increased expenses that were $8,557,936 higher. This was the last year for the major MOHLTC Base Reductions, and the last year before the HSRC mandated merger. Significant accounting changes included:

- In this year, the Civic Campus stopped reporting the MOH drug recoveries as an "Other Vote" and moved the revenues and the costs up into the operating accounts. From the 1997-98 submission, this change added $4,916,542 to recoveries and to drug expense. As amounts for MOH Drug Recoveries change in subsequent years, both drug expense and other revenue will be affected.
- There was a change in depreciation policy for MIS Equipment at the Civic, to bring all three campuses in line for the start of the merger. This change accounts for perhaps half of the $2.9 million increase in amortization costs in 1997/98. Only the Civic recorded a significant increase in depreciation cost in 1997/98.

Revenue & Expense Changes are shown in Exhibits 11.5 and 11.6:

Exhibit 11.5

1997/98 Operating Revenue Changes (Excluding Restructuring, including Heart Institute)

Fiscal 1997/98 Revenue Category	Increase ($ Mil)	Decrease ($ Mil)
MOHLTC Base funding reduction		$17.2
MOHLTC One-time funding – net of priority program settlements	$2.0	
Quebec Inpatient Revenue – Days decreased by 1,506; wtd cases by 641		$0.9
Other patient revenue. Diagnostic Imaging revenue accounts for the majority of this variance, which also explains the increase in Medical Staff expenses shown below.	$5.5	
Differential and co-payment revenue		$1.4
Drug Recoveries – Civic accounting change	$4.9	
Other Undistributed and Miscellaneous revenue	$1.8	
Total Increase & Decrease	$14.2	$19.5
Net Change in Revenues		$5.3

Exhibit 11.6
1997/98 Operating Expense Changes (Excluding Restructuring, including Heart Institute)

Fiscal 1997/98 Expense Category	Increase ($ Mil)	Decrease ($ Mil)
Compensation costs (total salaries and wages) A significant decrease in compensation costs occurred at the Civic campus.($8,900,000). Average beds decreased by 65, and weighted cases decreased by 2,810, while weighted cases increased by 1,585 at the General. Average hourly rate declined slightly from $22.63 to $22.60, and total hours declined by 212,223		$5.1
Benefits cost increased from 21.1% to 21.7% of total salaries and wages	$0.3	
Medical Staff Expense increased by 11.4%	$2.3	
Medical Surgical Supplies costs on the inpatient side should have decreased with the decrease in weighted cases. An increase could have been driven by increased outpatient activity or increased prices.	$1.4	
MOH Drugs (Civic accounting change)	$4.9	
Other Drug costs increased by 5.4%	$1.2	
Supplies & other Expenses increased by 0.1%	$0.7	
Interest Expense		$0.1
Equipment amortization and rental/lease (accounting change noted above)	$2.9	
Total Increase & Decrease	$13.8	$5.2
Net Change in Expenses	$8.6	

From 1996/97 to 1997/98 overall weighted cases decreased by 1,501 (from 95,464 to 93,957) while the cost per weighted case increased by $110 (from $2,991 to $3,101). The net change represents about $5.8 million of the overall change in operating expense from 1996/97 to 1997/98.

11.2.2.2 Fiscal 1998/99 (Changes from 1997/98)

The restated 1997/98 and 1998/99 actual revenues and expenses as reported in the 2000/01 operating plan have been used as the basis for this comparison. This restatement excluded the Heart Institute revenues and expenses. Both revenues and expenses increased in 1998/99. The increase in expenses ($25,380,838) significantly outpaced the $8,260,989 increase in revenues worsening the operating deficit to $28,308,929.

Significant accounting changes included:

- The increase in MIS projects warranted a change in accounting practice. In previous years, MIS projects were charged through regular operations as they occurred. In 98/99, the Hospital started to capitalize and amortize these projects.

- The Hospital discontinued the practice of interdepartmental charges and recoveries. This change had the affect of reducing both reported recoveries and expenses.

Revenue & Expense Changes are shown in Exhibits 11.7 and 11.8:

Exhibit 11.7
1998/99 Operating Revenue Changes (Excluding Restructuring, excluding Heart Institute)

Fiscal 1998/99 Revenue Category	Increase ($ Mil)	Decrease ($ Mil)
MOHLTC Base funding increased as Priority Clinical Program funding was moved into the base allocation	$2.8	
MOHLTC One-time funding	$2.6	
Quebec Inpatient Revenue – Days Decreased by 1,471; wtd cases by 104; and the daily rate was reduced by 5%		$2.7
Other patient revenue	$3.0	
Differential and co-payment revenue	$0.6	
Investment Income		$2.5
Undistributed and Miscellaneous revenue	$5.7	
Elimination of Interdepartmental Charges		$1.2
Total Increase & Decrease	$14.7	$6.4
Net Change in Revenues	$8.3	

Exhibit 11.8
1998/99 Operating Expense Changes (Excluding Restructuring, excluding Heart Institute)

Fiscal 1998/99 Expense Category	Increase ($ Mil)	Decrease ($ Mil)
Compensation costs (total salaries and wages) Total hours increased by 442,193.	$7.1	
Compensation – Labour accrual including benefits	$7.9	
Benefits cost increase due to increased salaries & wages	$1.5	
HOOPP Holiday takes effect @ January 1, 1999		$2.0
Medical Staff Expense – a 7.5% increase due to volume	$1.6	
Medical Surgical Supplies increased by 13.9%. There was a 3.3% increase in weighted cases (per Outaouais analysis).	$3.1	
Drug costs increased 10.6%	$2.7	
Supplies & other Expenses decreased by 2.5%. Based on the decrease in interdepartmental charge revenue, most of this decrease may be attributable to the change in accounting policy noted above.		$1.2
Bad Debts	$0.5	
Interest Expense	$0.6	
Equipment amortization and rental/lease increased by 21.3%. Hospital began amortizing Software.	$3.7	
Total Increase & Decrease	$28.7	$3.7
Net Change in Expenses[183]	$25.4	

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[183] Difference due to rounding

From 1997/98 to 1998/99 overall weighted cases increased by 2,954 (from 95,464 to 93,957) while the cost per weighted case increased by $236 (from $3,101 to $3,337). The net change represents about a $32.0 million contribution to change in operating expense from 1997/98 to 1998/99.

11.2.2.3 Fiscal 1999/00 (Changes from 1998/99)

The restated 1998/99 and 1999/00 actual revenues and expenses as reported in the 2000/01 operating plan have been used as the basis for this comparison. This restatement excluded the Heart Institute revenues and expenses. As seen in the tables below both revenues and expenses increased in 1999/00. The increase in expenses ($29,332,782) again exceeds the increase in revenues ($26,665,798) worsening the operating deficit to $30,975,912.

There were no significant accounting changes in this fiscal year.

Revenue & Expense Changes are shown in Exhibits 11.9 and 11.10:

Exhibit 11.9
1999/00 Operating Revenue Changes (Excluding Restructuring, excluding Heart Institute)

Fiscal 1999/00 Revenue Category	Increase ($ Mil)	Decrease ($ Mil)
MOHLTC Base funding increases included a 1% general increase, funding for direct nursing, five twelfths of the SA Grace Program Transfer, and funding for Priority Programs was rolled into the base allocation	$21.4	
MOHLTC One-time funding	$3.7	
Quebec Inpatient Revenue Increased	$0.4	
Increased OHIP revenues of $1,100,000 due to increased diagnostic activity. Standardization of inpatient rates also contributes to this increased revenue	$1.9	
Differential and co-payment revenue: Average beds were reduced by 69 and patient days were lower by 21,921.		$1.6
Investment Income		$0.6
Undistributed and Miscellaneous revenue: End of the MIS external service contracts		$0.8
Amortization of Grants/Donations	$2.3	
Total Increase & Decrease	$29.7	$3.0
Net Change in Revenues	$26.7	

Exhibit 11.10
1999/00 Operating Expense Changes (Excluding Restructuring, excluding Heart Institute)

Fiscal 1999/00 Expense Category	Increase ($ Mil)	Decrease ($ Mil)
Compensation costs (total salaries and wages) Total hours increased by 442,193.	$14.5	
Benefits Increase due to increased compensation cost	$2.8	
Benefits cost accrual of $750,000	$0.8	
Other Benefits Increases	$2.9	
HOOPP Holiday annualization savings		$6.0
Medical Staff Expense – a 7.5% increase	$0.6	
Medical Surgical Supplies increased by 13.9%. There was a 3.3% increase in weighted cases (per Outaouais analysis).	$3.5	
Drug costs increased 10.6%	$1.0	
General Supplies & other Expenses	$2.1	
Increased consulting fees for MIS implementation	$1.2	
Linen charges were up due to a shortage in the region.	$0.8	
Equipment charges increased: equipment transfers from the Grace Hospital; increase in the capitalization threshold to $1500; one time charge at elimination of plant inventory	$3.6	
Bad Debts: Problems with the new AR system	$1.5	
Interest Expense		$0.1
Equipment amortization and rental/lease		$0.1
Total Increase & Decrease	$35.3	$6.2
Net Change in Expenses[184]	$29.3	

From 1998/99 to 1999/00 overall weighted cases increased by 2,954 (from 95,464 to 93,658) while the cost per weighted case increased by $236 (from $3,337 to $3,603). The net change represents about a $14.1 million contribution to change in operating expense from 1998/99 to 1999/00.

11.2.3 Other Vote Programs

Other Vote Programs have not contributed significantly to the operating deficits based on the reported revenues and expenses.

11.3 Ministry Base and One-Time Funding

The Ministry of Health provides general funding to hospitals in two categories: Base funding allocation which represents funding that will continue (unless changed); and one-time funding that, by its name, only occurs once. Hospitals also receive other funding for specific programs through other votes of the legislature. These other votes will be discussed later in the report.

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[184] Difference due to rounding

11.3.1 MoH Base Funding Allocation

Over the period 1995/96 through 1999/00 the MOHLTC Base Allocation will have been reduced by $7,381,216 prior to the separation of the Heart Institute. The changes are presented in Exhibit 11.11.

Exhibit 11.11

Ottawa Hospital Base Funding Allocation 1995/96 through 1999/00

	1995/96	1996/97	1997/98	1998/99	1999/00
Opening Allocation	338,972,708	339,449,608	317,877,488	301,169,913	310,276,194
Adjustments					
Increase (Reduction)		(22,164,500)	(23,338,182)		3,101,512
Mental Health Reinvestment			1,007,786		
Transition to New Funding Formula					
Transition - Restructuring Funding					
Adjustments Subtotal	-	*(22,164,500)*	*(22,330,396)*	-	*3,101,512*
Growth					
Growth Funding					
Program Transfers					
SA Grace					4,142,765
Heart Institute					
Program Transfers Subtotal	-	-	-	-	*4,142,765*
Priority Clinical Programs					
Life Support		202,500	150,900		
Perinatal Unit	115,000				
Cardiovascular Programs	361,900	389,880	3,358,373	3,090,194	2,976,119
ESRD Services			1,736,400	1,687,687	1,457,585
Orthopaedic Implants				193,400	
Trauma Program				75,000	
Magnetic Resonance Imaging			62,500		1,250,000
Cochlear Implants					
CMHP - Eating Disorders			314,648		
Bone Marrow Transplant Program				4,060,000	1,085,000
Priority Clinical Programs Subtotal	*476,900*	*592,380*	*5,622,821*	*9,106,281*	*6,768,704*
Nursing					
Additional Funding - Nursing					6,021,822
Maternal/Newborn Nursing					1,280,495
Nursing Subtotal	-	-	-	-	*7,302,317*
Final Base Allocation	339,449,608	317,877,488	301,169,913	310,276,194	331,591,492

Specific changes as shown in Exhibit 11.11 include:

- **Adjustments** – The net impact of base adjustments over the period has been a reduction of $41,393,384 to the TOH base allocation.
- **Base Funding Reduction** of $45,502,682 over 1996/97 and 1997/98. All Ontario hospitals received funding reductions over this period. The MoH funding reduction for TOH was 6.5% in 1996/97 (range of reductions 2.5%-7%), and 7.3% in 1997/98 (range of reductions 3%-9%).

These reductions were calculated through the adjustment factors methodology. The Mental Health Reinvestment restored some of the reduction in 1997/98.

- Base Adjustments provided **additional general funding** in 1999/00 of $3,101,512.
- **Growth** – The Hospital had received one-time growth funding in 1997/98 ($616,255) and in 1998/99 $536,324 was added, and a further small increase brought that to $1,186,835 for 1999/00.
- **Program Transfers** – In November, 1999 medical and surgical program activity was transferred from the Salvation Army Grace Hospital to TOH, and MOHLTC CT Scanner funding was transferred to Queensway Carleton from TOH for a net additional $4,142,765 in base funding.
- **Priority Clinical Programs** – These programs are funded primarily on patient volumes. As volume increases, the base funding is increased. Many of these programs also have one-time funding components where adjustments are made based on actual volumes attained. TOH base funding has increased $22,567,086 over the period to support priority clinical programs.
- **Nursing** – Base allocation increases totalling $7,302,317 were received in 1999/00 for general and maternal/newborn nursing staffing.

11.3.2 MoH One-time Funding

Over the period 1995/96 through 1999/00 MOHLTC one-time funding to TOH has represented about 7.4% of the total base and one-time funding provided by the MOHLTC over the period. Specific items as shown in Exhibit 11.12 have included:

- One-time funding of $24,695,229 has been provided for **Priority Clinical Programs**.
- **Growth** funding was provided on a one-time basis prior to being rolled into the hospital's base allocation for 1999/00. TOH received $2,819,704 in one-time funding for growth over the period.
- The MOHLTC provided hospitals with additional one-time funding in 1998/99 and 1999/00 to allow hospitals to open additional inpatient acute beds during periods of peak

demand to improve access to **emergency departments**. TOH received $6,914,140 under this initiative.

- The MOHLTC provided $40,631,519 ($15,507,560 in 1998/99, and $25,123,959 in 1999/00) to help TOH with **financial pressures**.
- The MOHLTC provided $12,367,961 in other one-time adjustments including **transition funding, benchmark adjustment** (1996/97), and **ice storm costs** (1998/99).
- The MOHLTC provided $14,964,444 to assist TOH with additional costs related to **Y2K** readiness and compliance.

Exhibit 11.12
Ottawa Hospital One-time Funding 1995/96 through 1999/00

	1995/96	1996/97	1997/98	1998/99	1999/00
Priority Clinical Programs					
Cardiac Programs	528,000	1,653,760	943,322	(366,321)	(1,176,307)
ESRD Services	2,095,063	3,642,400	3,734,968	(3,451,802)	1,776,720
Orthopedic Implants			47,070	(208,370)	3,200
Trauma Program	1,883,774	2,775,000	2,130,000	150,000	1,695,000
Life Support	77,000				
MRI	135,200	207,000	213,000	40,200	
CMHP - Eating Disorders					
Oncology - Chemistry			475,600		
Cochlear Implants					198,000
IN-Vitro Fertilization				(284,600)	(165,600)
Regional Geriatric Program	(26,433)				
Perinatology			(2,611,795)		
Bone Marrow	1,810,000	3,030,000	3,242,300	249,600	
Settlement Priority Programs	(72,066)	543,900	(261,300)		
Subtotal - Priority Clinical Programs	*6,430,538*	*11,852,060*	*7,913,165*	*(3,871,293)*	*2,331,013*
Growth			480,310	1,152,579	1,186,835
Emergency Services				2,308,688	4,490,452
Financial Pressures				15,507,560	25,123,959
General Adjustments					
Transition Funding				3,627,870	
Benchmark Adjustment		4,715,749			
Nursing Training	75,000			26,266	
Transition to New Funding Formula					851,896
Transition - Restructuring Funding					2,822,816
Other Funding Inc.		48,884			
Penalty - Late Submission				(14,975)	
Physician Job Action			11,483		
Reimbursement - Ice Storm Costs				202,972	
Subtotal - General Adjustments	*75,000*	*4,764,633*	*11,483*	*3,842,133*	*3,674,712*
Y2K Funding				11,209,360	3,755,184
Restructuring Reimbursement			7,974,300	7,781,867	9,727,849
Total One-time Funding	6,505,538	16,616,693	16,379,258	37,930,894	50,290,004

11.3.3 Year 2000 (Y2K)

The MOHLTC provided one-time funding to hospitals to reimburse them for additional costs related to Y2K readiness and compliance. This $14,964,444 funding was applied to both operating and capital costs. Y2K expenditures and funding are summarized in Table (Y2K) from the 1999/00

Reconciliation Report for Health Sector Year 2000 Funding. MOHLTC funding covered 92% of the eligible capital and operating costs. Capital costs were 49% of the total eligible costs. In addition to the eligible costs, TOH also reported that it incurred $15.1 million in costs to upgrade its business systems for Y2K compliance. Y2K funding was recognized in the operating statements as "Funds for Capital Purposes – Not in Revenue."

11.3.4 Restructuring Expense & Reimbursement

The Ottawa Hospital(s) incurred very significant out of pocket costs for restructuring in the first two years ($16.8 million), followed by two years of net surplus as the funding caught up, followed by a $3.8 million deficit in 1999/00, leaving the Hospital $13.25 million out-of-pocket by the end of 1999/00. The MohLTC provides reimbursement for 85% of eligible restructuring costs. The Ottawa Hospital(s) have received cumulative reimbursement for 71.1% of reported restructuring costs since some restructuring costs are not eligible for reimbursement according to MoHLTC funding rules. The restructuring expense and reimbursement history is shown in Exhibit 11.13 below.

Exhibit 11.13
Ottawa Hospital Restructuring Expense & Reimbursement Through 1999/00

	1995/96	1996/97	1997/98	1998/99	1999/00	Cumm.
Reimbursements	-	-	8,550,900	14,701,208	9,354,994	32,607,102
Restructuring Costs	11,226,462	5,580,964	7,377,116	8,513,000	13,159,583	45,857,125
Net Surplus(Deficit)	**(11,226,462)**	**(5,580,964)**	**1,173,784**	**6,188,208**	**(3,804,589)**	**(13,250,023)**

11.3.5 Hospital Use of Funding Increases

With the exception of Y2K funding (as noted above), funding increases appear to have been pooled with all revenues to support the operations of the hospital.

11.4 Hospital Revenue Generation

The Hospital generates significant revenue in addition to its base and one-time funding allocations from MOHLTC. These revenues are shown by category over the period 1997/98 through 1999/00 in Exhibit 11.14 below.

Exhibit 11.14

Non-MOHLTC Revenue 1997/98 through 1999/00[185,186]

	1997-98	1998-99	1999-00	% Change from 1997/98
Quebec - Inpatient	12,809,[illegible]5	10,122,688	10,537,463	-17.7%
Quebec - Outpatient	7,338,[illegible]	8,919,907	9,269,734	26.3%
OHIP	22,943,187	22,922,679	23,507,168	2.5%
Fed.Govt, WSIB, Other Provinces	6,397,167	7,647,201	7,086,369	10.8%
Foreign, Uninsured, Self Pay (net of differential revenue)	4,580,937	4,867,526	5,838,919	27.5%
Differential Revenues	19,793,775	20,370,507	18,895,129	-4.5%
Referred-In Services	1,030,774	885,990	835,054	-19.0%
Marketed Services	4,451,744	4,225,157	4,443,697	-0.2%
Drug Recoveries	6,397,775	7,382,292	7,876,692	23.1%
Recoveries - Surgery Program	247,255	487,202	367,886	48.8%
Clinical Lab Recoveries	1,338,191	1,008,265	1,035,035	-22.7%
Facilities - Recovery from ORCC	1,500,114	1,557,773	1,539,296	2.6%
Recoveries - compensation	1,134,467	1,114,068	900,496	-20.6%
Retail Pharmacy	6,490,635	7,425,892	7,468,115	15.1%
MIS	865,187	676,699	(13,929)	-101.6%
Nutrition & Food Services	3,736,852	4,081,841	4,408,315	18.0%
Parking	4,455,827	4,757,553	5,088,819	14.2%
Bad Debt Expense	(797,597)	(1,308,490)	(2,798,118)	250.8%
Interdepartmental Services	1,016,200	-	123,164	-87.9%
Grants & amortization	4,052,773	7,753,707	10,438,256	157.6%
Investment Revenue	3,248,578	715,069	116,605	-96.4%
Other	3,563,049	2,947,685	3,044,123	-14.6%
Total	**116,595,191**	**118,561,211**	**120,008,288**	**3.7%**

The results show an overall 3.7% increase over the period[187]. Specific changes of note include the following:

- After many years of decline, Quebec Inpatient revenue seemed to stabilize in 1999/00. Quebec outpatient revenue has increased at more than 20% per year. The overall decrease was a combination of volume and rate decreases. Also, TOH accepted inpatient cases from Quebec that were

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[185] Data provided by TOH Finance Department. These figures exclude the Heart Institute.

[186] In 1997-98, the Civic Campus was recording EPO/Cyclosporin revenue as an "Other Vote". $3,384,825 that had been included in the MOH revenue total has been included in here to facilitate the comparisons.

[187] The Hospital discontinued the practice of interdepartmental charges in 1998/99. Interdepartmental charge revenue was excluded from the calculation of percentage increase in non-MOHLTC revenues, since it artificially inflated 1997/98 revenues.

not pre-approved by the Quebec Government. Revenue for these patients was at the rate of $450 per day instead of the standard interprovincial per diem rate of $828 prior to 1998/99 and $745.20 since.

- Recoveries show an increase of $2.8 million. Of course, these revenues are exactly offset by expense.
- Decrease in MIS represents the end of the IS support services business. The staff involved were redirected to Y2K systems implementation for the Hospital.
- Bad Debt expense increased sharply in 1999/00 as additional write-offs were advised by the auditors.
- Interdepartmental services charges and revenues were discontinued after 1997/98.
- The decline in working funds demonstrates itself directly in the decline in investment revenue from $3.2 million in 1997/98 to $116,605 in 1999/00

11.4.1 Preferred Accommodation

The experience of the Ottawa Hospital over the past five years has been similar to that of other centres. Hospitals raised preferred accommodation rates to maximize this non-MOHLTC revenue source when the MOHLTC reduced base funding levels in 1996/97. Initially, preferred accommodation revenues increased. The Ottawa Hospital actually extended the string of years of increase when it equalized preferred accommodation rates to the highest of the three predecessor hospitals in 1998/99. However, this category of revenue peaked in 1998/99 and has begun to decline, a pattern consistent with other Ontario Hospitals. However, at the Ottawa Hospital the decline is not only due to buyer resistance from high rates, but also due to growing inability (caused by extremely high occupancy rates) to place patients into the correct accommodation. Nevertheless, TOH recorded $18,995,129 in preferred accommodation revenue in 1999/00. As seen in Exhibit 11.15, the Ottawa Hospital reported the second highest return per acute ward day, and the highest total revenue from preferred accommodation of the Ontario peers.

Exhibit 11.15
Preferred Accommodation Revenue – 1999/00

1999/00	Acute Ward Days	Diff Revenue	per day	Rank
Mount Sinai	65,389	6,866,239	105.01	1
Ottawa	246,695	18,895,128	76.59	2
LHSC	164,765	10,089,020	61.23	3
UHN	223,549	12,814,465	57.32	4
S&WCHSC	152,935	6,789,672	44.40	5
Hamilton	196,376	8,036,198	40.92	6
St. Michael's	144,175	5,038,545	34.95	7
Hamilton St. Josephs	87,684	2,419,294	27.59	8
		Mean	56.00	
		Median	50.86	

11.5 Factors Contributing to Current Situation

11.5.1 Service Volume

The trends in hospital service volumes are summarized in Exhibit 11.16. Inpatient acute and same day surgery weighted cases decreased by 1.9% since 1995/96, with the shift to same day surgery showing clearly. Ambulatory services volumes tell a mixed story with emergency visits up slightly (5.84%), other day/night care visits up significantly (25.63%), and clinic visits down by 9.25%. Overall, these service volumes do not support an expectation of significant increase in operating cost.

Exhibit 11.16
Ottawa Hospital Trends in Service Volumes 1995/96 through 1999/00

	1995/96	1996/97	1997/98	1998/99	1999/00	Chg
Inpatient Statistics						
Inpatient OCW	88,242	87,071	84,847	87,602	84,841	-3.85%
SDS DPG Weights	7,457	8,394	9,109	9,309	9,017	20.92%
Total Wtd Cases	95,699	95,464	93,957	96,911	93,858	-1.92%
Patient Days	451,945	424,618	400,424	415,893	394,161	-12.79%
Ambulatory Statistics						
Emergency Visits	131,566	127,575	125,561	132,962	139,243	5.84%
Day/Night Care						
Surgical & Endoscopy Cases	28,178	23,514	22,755	4,008	28,453	0.98%
Surgical & Endoscopy Visits	23,057	10,389	29,761	30,514	17,217	-25.33%
Other Day/Night Care Visits	73,089	72,851	82,760	30,972	91,824	25.63%

11.5.2 Productivity (Increase/Decrease in Hours)

The Ottawa Hospital's experience related to changes in earned hours over the period 1995/96 through 1999/00 is shown in Exhibit 11.17. Hours have increased by 9.6% since the low of 1997/98. The transfer of the Salvation Army Grace Program activity in 1998/99 could have contributed to the increase in hours in each of 1998/99 and 1999/00. The transfer occurred in November, 1999 with 5/12 of a year impact in 1998/99 and 7/12 of a year in 1999/00. However, that new program activity failed to make a significant impact on reported activity statistics noted above.

Exhibit 11.17
Ottawa Hospital Total Earned Hours 1995/96 through 1999/00[188]

	1995/96	1996/97	1997/98	1998/99	1999/00
Civic	6,264,927	6,004,600	5,479,363		
General	3,945,052	3,768,458	4,070,111		
Riverside	1,258,521	1,170,276	1,181,637		
Ottawa Hospital (Reported)	11,468,500	10,943,334	10,731,111	11,173,304	10,752,000
Heart Institute (Sep. Reporting)	-	-	-	-	1,007,971
Heart Institute (Incl in TOH)	-	-	953,723	946,286	-
Ottawa Hospital (Incl. HI)	11,468,500	10,943,334	10,731,111	11,173,304	11,759,971
Change (Hours)		(525,166)	(212,223)	442,193	586,667
Percent Change		-4.6%	-1.9%	4.1%	5.3%
Ottawa Hospital (Excl. HI)			9,777,388	10,227,018	10,752,000
Change (Hours)				449,630	524,982
TOH Percent Change				4.6%	5.1%

11.5.3 Unit Costs

The HOOPP Holiday has provided some offset to increasing average wage costs. Benefit costs have declined from 22.2% of wages and salaries in 1995/96 to 19.5% in 1999/00. This 12% decrease contributed to limiting the combined increase in salaries and benefits cost per hour to 2.3% over the period.

The consolidated average hourly wage in 1995/96 was $22.62. In 1999/00 it was 4.6% higher at $23.66. Note that the average wage is a function of wage rates, changes in the mix of categories of staff providing services, changes in seniority levels as recognized in the various wage scales, and year-end labour accruals. Some of the major union groups had increases delayed during this period pending negotiation of settlement. 1998/99 includes an accrual of $2.5 million and 1999/00 includes an accrual of $12.8 million. Based on TOH projections, it is expected that recent settlements will increase wage rates and cause the average wage to jump significantly in 2000/01.

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[188] Source: Year-End Supplementary Reports

TOH entered fiscal 2000/01 with accumulated labour accruals of $14.85 million. It budgeted for an increase of $10.75 million in labour cost. Current projections for CUPE & OPSEU settlement impact indicate that the costs of retroactive pay and equalization will be some $11.9 million higher than the accumulated accrual.

11.6 Hospital Capital Costs

11.6.1 Expenditures

As seen in Exhibit 11.2, The Ottawa Hospital spent $122.69 million for capital acquisition over the period 1995/96 through 1999/00. Capital spending contributed $22.04 million to the decrease in working funds over the period. Further detail on the hospital's capital spending over the period 1997/98 through 1999/00 is shown in Exhibit 11.18. Information systems was the largest category of spending in 1997/98 and 1998/99, consuming 60 – 70% of the capital spending.

Exhibit 11.18
Summary of Capital Asset Additions, April 1997 to October 1999

	1997/98	1998/99	1999/00
Buildings and CIP	2,588,000	4,942,223	15,741,000
Building Service Equipment		607,997	
Major Equipment	3,079,167	4,903,805	8,944,000
Information Systems	15,684,033	17,757,975	7,404,000
TOTAL	21,351,200	28,212,000	32,089,000

Ottawa Hospital capital spending is compared to other Ontario Academic Health Science Centres in Exhibit 11.19. Ottawa was below both the mean and the median, suggesting that the hospital's capital spending was not excessive compared to its peers.

Exhibit 11.19
Capital Spending as a percentage of Hospital Operating Expense 1997/98 through 1999/00 Cumulative (Excluding Restructuring)

Hospital	Pct.
The Ottawa Hospital	5.78%
Hamilton HSC	3.00%
Hamilton St. Joseph's	4.38%
London HSC	10.40%
Mount Sinai Hospital	13.66%
St. Michael's Hospital	8.02%
Sunnybrook & Women's	6.87%
University Health Network	5.66%
Mean	7.22%
Median	6.33%

11.6.2 Planned Capital Expenditures

Capital spending projections for 2000/01 total $21.5 million including $9.5 million for buildings, $7.0 million for major equipment and $5.0 million for information systems.

The Hospital's current estimates for capital investment over the next seven years (through 2007/08) include the following:

Exhibit 11.20
Capital Development Plan through 2007/08

	Projection
MRI	6,000,000
Regional Laboratory	18,000,000
Building Redevelopment/Renewal	29,500,000
Decommissioning/Building Renewal	25,000,000
Parking Lots	23,000,000
IVF Expansion/Growth	2,700,000
HSRC Capital Project	173,000,000
Information Systems	51,247,000
Medical/Non-Medical Equipment	83,900,000
TOTAL CAPITAL PROJECTION	412,347,000

11.7 Financing Plan

The current financing plan falls $107.7 million short of the planned capital expenditure over the next seven years. Income projections in support of capital requirements by category are shown in exhibit 11.21.

Exhibit 11.21
Expected Revenue to Support Capital Development Plan through 2007/08

	Projection
Depreciation	120,000,000
Foundations	31,000,000
MoHLTC - HSRC/Lab	124,150,000
MoHLTC - Decommissioning	17,500,000
Local Government	12,000,000
TOTAL FUNDING PROJECTION	304,650,000

These projections are limited in scope:

- They do not include research requirements and funding
- They do not include $ for Neurosciences Lab Consolidation
- They do not include capital requirements for Rehabilitation Centre
- They do not include capital requirements for Heart Institute

Projected revenues are based on certain assumptions, including:

- MoHLTC will fund 65% of HSRC/Lab development
- MoHLTC will fund 70% of Decommissioning
- The Foundations can raise $30 million in a six year campaign
- Local Government funding is not secured - Discussions with the new City of Ottawa are underway for an appropriate allocation for all hospital projects in the Region

The Ottawa Hospital had a negative working funds position of $75.4 million at the beginning of 2000/01. The projected 2000/01 operating deficit of $75.0 million will almost double the working funds deficit, and capital spending and repayment of long term debt will add another $1.8 million for a projected working funds deficit of $152.2 million at year end. The Hospital has an existing annual commitment to repayment of long term debt of $500,000 (decreasing to $200,000 in 2004/05).

Even after eliminating its operating deficit, the Hospital has limited potential to generate operating surpluses and donations. That puts a limit on its ability to carry debt.

11.8 Financial Implications of Inaction – 2000/01

The 2000/01 Operating Plan contemplated a scenario that would have resulted in an operating deficit of $35,954,462. This result represents a further deterioration of the hospital's operating position. The second quarter year-end projection prepared by the hospital for the MOHLTC paints an even bleaker picture with a projected operating deficit for 2000/01 of $67,679,702, increasing to $72,067,962 including restructuring expenses. With this projection the increase in expenses ($47,435,444) greatly exceeds the projected increase in revenues ($10,731,654). Significant changes include:

Revenue & Expense Changes Projected in 2000/01 are shown in Exhibits 11.22 and 11.23:

Exhibit 11.22
Projected 2000/01 Revenue Changes (Excluding Restructuring and Heart Institute)

Fiscal 2000/01 Revenue Category	Increase ($ Mil)	Decrease ($ Mil)
MOHLTC Base funding	$32.7	
MOHLTC One-time funding		$25.5
Quebec Inpatient Revenue		$5.3
Other Non-MOHLTC patient revenue	$5.9	
Differential and co-payment revenue		$0.2
Investment Income		$0.1
Undistributed and Miscellaneous revenue	$3.1	
Amortization of Grants/Donations	$0.1	
Total Increase & Decrease	$41.5	$31.1
Net Change in Revenues[189]	$10.7	

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[189] Difference due to rounding

Exhibit 11.23
Projected 2000/01 Expense Changes (Excluding Restructuring and Heart Institute)

Fiscal 2000/01 Expense Category	Increase ($ Mil)	Decrease ($ Mil)
Compensation costs – General	$17.0	
Compensation – CUPE Retro	$11.5	
Compensation – CUPE Economic % 2000/01 to year end	$2.2	
Compensation – CUPE Wage Standardization	$10.1	
Compensation – CUPE LTD & Terms & Conditions	$0.6	
Compensation – OPSEU Retro to Mar 31/99	$9.8	
Compensation – OPSEU Wage Standardization to Mar 00	$6.0	
Compensation – OPSEU Wage Standardization to Mar 01	$6.0	
Benefits – General		$0.7
Benefits – CUPE Settlement	$4.8	
Benefits – OPSEU Settlement	$4.3	
Previously accrued/budgeted Compensation & Benefits		$25.6
Medical Staff Expense		$0.2
Medical Surgical Supplies	$0.8	
Drug costs	$2.0	
General Supplies & other Expenses		$0.7
Bad Debts: The new AR system settling in.		$1.7
Interest Expense	$0.3	
Equipment amortization and rental/lease	$1.0	
Total Increase & Decrease	$80.0	$28.9
Net Change in Expenses	$47.4	

This worsening operating result also reduces projected working funds at the end of fiscal 2000/01 to a deficit of $147.2 million, up from the $115.5 million working funds deficit projected in the 2000/01 Operating Plan. The 1999/00 year-end working funds deficit was $75.4 million. If the current rate of decline in working funds continues, the negative working funds position could be a half a billion dollars in less than three years time.

11.8.1 Hospital Borrowing

The hospital has established a range of debt facilities to provide the needed flexibility to continue operating during the current fiscal difficulties. These facilities include:

- revolving line of credit - $24,000,000 - to be used for current expenditures and not to be used for deficit financing and/or capital expenditures
- demand bridge loan - $84,000,000 - to be used to assist with that portion of capital expenditures where repayment is projected within one year from the MoHLTC. Requires letter from MoHLTC approving project.

- demand installment loan - $36,000,000 - to be used to assist with capital expenditures approved by the MoHLTC, and where funding or repayment is to be from sources other than MoHLTC
- demand installment loan - $5,000,000 - a demand credit to repay existing loans/leases for existing equipment
- letters of credit - $1,000,000
- foreign exchange contracts - $1,000,000 US
- corporate visa - $100,000
- cheque credit - $100,000
- visa purchasing card - $1,000,000

Currently the only line used is the revolving line of credit. As of January 29, 2001 TOH was using $11.1 million of revolving line of credit, and the MoHLTC had provided an interest free cash advance of $50,000,000 due to be deducted from MOH payments in February and March, 2001.

12.0 Costs, Revenue & Funding Equity

The hospitals included in this comparison are noted in the table below along with a description of how the OCDM data were combined for predecessor organizations to provide something for comparison for previous years. OCDM data were examined for the period 1995/96 through 1998/99. MoHLTC Data edits have not been completed to permit use of 1999/00 results.

Hospital	Notes on Combination for Comparison
The Ottawa Hospital	Pre-1997/98 combines Riverside, Ottawa General, and Ottawa Civic
Hamilton St. Joseph's	
Hamilton Health Sciences Centre	Pre-1997/98 combines Hamilton Civic and Chedoke-McMaster
London Health Science Centre	Pre-1997/98 combines University Hospital, Victoria Hospital
Mount Sinai Hospital	
St. Michael's	1996/97 and 1997/98 combine St. Michael's and Wellesley 1995/96 combines St. Michael's, Wellesley, and Central
Sunnybrook and Women's Health Science Centre	Combines Sunnybrook, Women's College, and Orthopaedic & Arthritic
University Health Network	Pre- 1998/99 combines TTH and Princess Margaret

12.1 Comparisons of Cost/Wtd Case with Expected Cost/Wtd Case

Exhibit 12.1 shows OCDM Actual Cost per Weighted Case for TOH and its predecessor organizations. The actual cost per weighted case in 1998/99 actually exceeds the highest of the three predecessor organizations despite the fact that 14,000 weighted cases shifted from Riverside ($2,413 ECPWC) to TOH ($3,202 ECPWC). The increase in actual cost per weighted case from 1997/98 to 1998/99 suggests that the Riverside cases were absorbed into TOH at the higher cost level of the academic sites.

Exhibit 12.1
Ottawa Hospital OCDM Actual Cost per Weighted Case

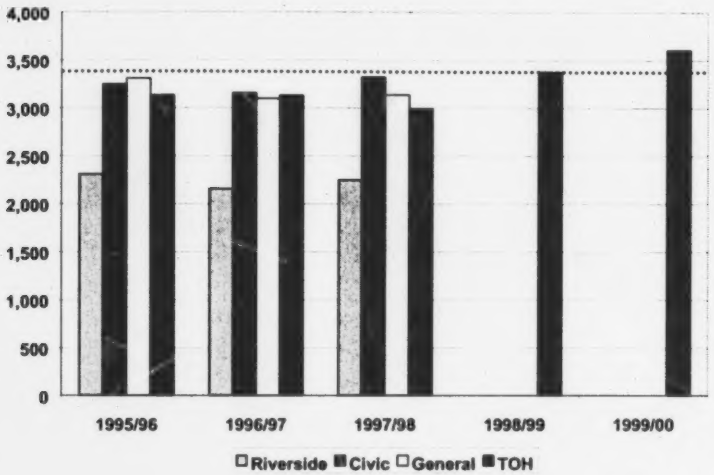
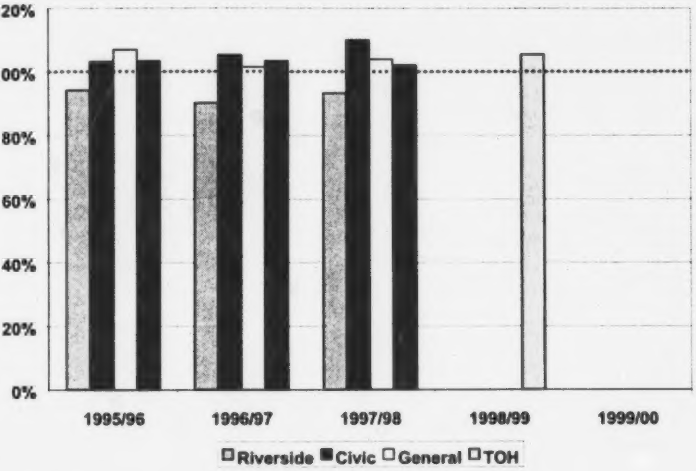


Exhibit 12.2 shows a comparison of ACPWC and ECPWC. The results of the predecessor organizations have also been combined to extend the TOH comparison back to 1995/96. Some observations include:

- Of the three predecessor organizations only Riverside achieved ACPWC less than ECPWC, and did it consistently.
- TOH ACPWC (Actual Cost per Weighted Case) has consistently exceeded ECPWC. In 1998/99, TOH ACPWC exceeded ECPWC by 5.5%.

Exhibit 12.2
Ottawa Hospital Actual Cost per Weighted Case as a Percentage of Expected Cost per Weighted Case



12.1.1 Comparisons of Cost/Wtd Case with Peer Hospitals

In 1998/99 TOH ACPWC was well in the midst of its peers, between the mean and the median of the comparator group as shown in Exhibit 12.3. However, the hospital's ACPWC has increased by 7.8% since 1995/96, above the median for the comparator group (5.6%).

Exhibit 12.3
Comparison of Actual Cost per Weighted Case

	Actual Cost per Weighted Case				
	1995-96	1996-97	1997-98	1998-99	Change
The Ottawa Hospital	3,133	2,991	3,101	3,377	7.80%
Hamilton HSC	3,248	3,221	3,262	3,564	9.73%
Hamilton St. Joseph's	2,781	2,791	2,641	2,851	2.52%
London HSC	3,297	3,322	3,307	3,561	7.99%
Mount Sinai Hospital	3,221	3,096	3,166	3,216	-0.16%
St. Michael's Hospital	3,271	3,011	3,200	3,526	7.80%
Sunnybrook & Women's	3,231	3,182	3,208	3,412	5.60%
University Health Network	3,851	3,454	3,244	3,496	-9.21%
Low	2,781	2,791	2,641	2,851	2.52%
Mean	3,254	3,134	3,141	3,375	3.73%
Median	3,240	3,139	3,204	3,454	6.62%
High	3,851	3,454	3,307	3,564	-7.44%
Range	1,070	663	666	713	-33.34%

It is interesting to note the compression in the range of ACPWC over that four-year period. The range in ACPWC was $1,070 in 1995/96, and it was $713 in 1998/99, a one-third reduction.

In 1998/99, only Hamilton exceeded the ECPWC by a greater percentage as seen in Exhibit 12.4. Still, TOH shows the greatest potential dollar savings from reducing actual operating costs to the same level as the ECPWC. TOH operating costs would have been $16.7 million less in 1998/99 if ACPWC had equaled ECPWC.

Exhibit 12.4
Comparison of Expected Cost per Weighted Case – 1998/99

HOSPITAL	ACPWC	ECPWC	% over ECPWC	Rank	1998/99 Wtd Cases
TORONTO Mount Sinai	3,215.72	3,620.24	-11.17	1	26,563
TORONTO Hospital Corp	3,496.15	3,682.17	-5.05	2	95,698
HAMILTON St Joseph's	2,851.38	2,973.06	-4.09	3	32,101
TORONTO Sunnybrook & Women's	3,468.38	3,515.77	-1.35	4	56,052
LONDON Health Sciences	3,561.09	3,480.21	2.32	5	67,564
TORONTO St Michael's	3,525.62	3,378.62	4.35	6	52,797
OTTAWA The Ottawa Hospital	3,376.69	3,201.90	5.46	7	95,698
HAMILTON Health Sciences Centre	3,563.57	3,373.06	5.65	8	72,023

12.2 Comparisons of Funding & Revenues with Peer Hospitals

The Ottawa Hospital has maintained for some time that the funding it receives from the MoHLTC is less than the funding provided to other Ontario hospitals. This analysis is intended to explore hospital funding and revenues and through analysis to better understand the situation.

Concern about equity of funding to hospitals is not new in Ontario, nor is it specific to Ottawa Hospital. Many of the equity funding initiatives introduced in the 1990's have provided a methodological approach to addressing and redressing identified inequities. The JPPC has published several useful reference documents[190] such as, "Understanding How Hospitals are Funded: An Introduction," that provide useful background on general hospital funding issues. The reality is, though, that Ontario hospitals are funded through a grant based system that has been in place for decades longer than equity funding. And to avoid funding chaos, the equity methodologies that have been implemented have been permitted to provide only minor corrections to apparent funding inequities.

In early 2000 a subcommittee of the JPPC Funding Committee worked to develop a methodology to calculate funding inequity to support further evolution toward fully equitable hospital funding. Unlike the methodology that compares actual cost per weighted case with expected cost per weighted case, this approach would compare actual funding per weighted case with expected funding per weighted case. The work of this committee was not published, but this (undocumented) methodology appeared to calculate expected MoHLTC Funding and, with some adjustment for differential revenue, compare it to actual funding to arrive at an over- or under-funding inequity. The analysis applied using 1998/99 data showed an apparent shortfall in funding for the Ottawa Hospital of $14.8 million. If the analysis is correct, and the MoHLTC were to accept the need to provide such additional funding, it would be a significant help to the hospital in achieving a balanced operating position.

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[190] Most are available online at www.jppc.org.

This project has been asked to review and comment on TOH's funding in comparison to similar facilities in Ontario. The following discussion presents that analysis.

12.2.1 Hospital Revenue s & Expenses

Hospitals receive revenues and funding based on the provision of a range of services, including acute inpatient and same day surgery, complex continuing care and rehabilitation care, outpatient and referred-in services. These revenues must support both the direct costs of providing service, and the overhead costs of operating the hospital. Revenues received for patient care services are pooled with other revenues (such as for preferred accommodation, parking, and marketed services) to achieve the total revenues needed to cover the operating expenses of the hospital. Revenues are categorized by source and by type of service as shown in Exhibit 12.5a, and expenses are shown by category in Exhibit 12.5b.

Exhibit 12.5a
Hospital Revenue Categories

MoHLTC		Differential Revenue	Non-MoHLTC Sources		Other Revenue
Base	One-time		Inpatient	Outpatient	

Exhibit 12.5b
Hospital Expense Categories

Inpatient		Outpatient	Rehab/CCC Inpatient	Overhead
MoHLTC	Non-MoHLTC			

There are several methodological challenges to the analysis and comparison of hospital funding. These challenges include:

- MoHLTC base funding is provided for hospital operations and is intended to support direct inpatient care, Rehabilitation and Complex Continuing Care (Rehab/CCC), Outpatient, and Overhead expenses. Although one-time funding is often earmarked for specific use, such as priority inpatient or outpatient programs, the application of MoHLTC funding to inpatient or outpatient services is not prescribed. The MoHLTC base allocation is provided as $nnn million for hospital operations, and not as $yyy million for acute inpatient services, $xxx million for outpatient services, and so on.
- Hospitals receive revenues from Non-MoHLTC sources for outpatient services. This revenue is combined with some of the MoHLTC funding to support the direct costs of providing outpatient services. Unlike inpatient care where weighted cases have been defined as a universal measure for inpatient volume, there is no universal measure of volume for outpatient services. Although we can isolate Non-MoHLTC outpatient revenues, we cannot isolate the direct cost to provide these services. The matching of revenues and costs is important for this analysis, since there are differences among the hospitals both in size of outpatient services compared to inpatient services, and in amount of outpatient service paid for by non-MoHLTC sources.
- Hospital operating cost is a significant factor in hospital funding. Cost per weighted case provides a measure of unit cost for inpatient services. However, there is no comparable measure for outpatient services.

12.2.2 The Peer Group

The peer group was modified slightly for this comparison from the list used for efficiency comparisons. Sunnybrook & Women's College Health Science Centre and Hamilton Health Sciences Corporation were excluded from these comparisons since they have significant non-acute inpatient revenues. The revenue patterns for non-acute inpatient services may be different from acute inpatient services. The remaining hospitals have insignificant non-acute inpatient revenues.

12.2.3 General Data Observations

Revenue and funding comparisons are limited by the consistency and detail of financial reporting by hospitals. Data sources used included the Year-End Supplementary Reports, the MIS Trial Balance Files, and MoHLTC funding records. Hospitals use separate processes to produce the Year-End Supplementary Reports and the MIS Trial Balance Files. Although the revenues reported through the two should be exactly the same for a hospital for a particular fiscal year, often there are differences. Usually, the differences are small, and so should not affect the overall usefulness of the analysis. However, they are unsettling.

Also observed were various differences in level of detail reported by hospitals. For example, some hospitals reported no one-time funding, yet clearly received one-time funding during the year.

The MoHLTC Hospital Financial Consultants provided MoHLTC official funding amounts by year for each of the peer hospitals for the period 1996/97 through 1999/00. The data included both base funding allocation and one-time funding. Cumulative adjusted base and one-time funding (per MoHLTC records) are shown in Exhibit 12.6. The Ottawa Hospital, with the second highest total dollars of this group, received 6.2% of its funding as one-time funding.

Exhibit 12.6
Cumulative MoHLTC Funding
1996/97 through 1999/00

Hospital	MoHLTC Base	MoHLTC One-time	MoHLTC Total	Per cent One-time
St Joseph's Hamilton	514,841,169	24,524,161	539,365,330	4.3%
Mount Sinai	414,209,776	34,358,427	448,568,203	7.1%
St Michael's	784,063,358	28,843,508	812,906,866	3.4%
LONDON HSC	1,144,874,479	114,262,647	1,259,137,126	8.3%
UHN	1,638,787,302	111,232,617	1,750,019,919	6.0%
The Ottawa Hospital	1,216,525,570	80,768,289	1,297,293,859	6.2%

All categories of one-time funding were included except Year 2000 funding and Restructuring reimbursement. Restructuring has separate accounting and reporting. Year 2000 funding was project specific, and in some cases (such as TOH) kept out of the hospital's revenue & expense[191].

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[191] Year 2000 funding was provided for two major categories of activity: planning, and remediation. Funding received for planning was taken into revenue by TOH. For TOH, 3% of its total Year 2000 funding fell into this category. Unfortunately, MoHLTC Funding records did not separate the two categories

Differences were noted between official MoHLTC funding records and the amounts reported in the Year-end Supplementary Reports that were used as the source for other revenue categories. Sometimes the hospital and the MoHLTC record a revenue in a different fiscal year, and there are various adjustments and reasons that are reported in the Year-end Supplementary Report to reconcile these differences. For this review it was not possible to study in detail the differences and the reasons for them.

The differences between MoHLTC funding records and reported MoHLTC Funding on the Year-End Supplementary Reports were noted over a four year period (1996/97 – 1999/00). The differences are shown in Exhibit 12.7. The cumulative differences for the peer hospitals range from 0.02% to 2.14%. It is surprising that reported London MoHLTC Funding consistently exceeded the official MoHLTC records. One would expect that over time, the yearly differences should cancel, or the hospital-reported amounts should be less than MoHLTC records as hospitals would not recognize revenue for priority programs until they were sure they could meet the required volume targets.

The analysis uses the results as reported in the Year-End Supplementary Reports. If the London revenues were overstated (and there is no reason other than noted in the previous paragraph to question their submissions), then the result of this analysis could be slightly affected.

Exhibit 12.7

Differences Between MoHLTC Funding and Hospital Reported Funding in Year-end Supplementary Reports[192]

Hospital	1996/97	1997/98	1998/99	1999/00	AllYears	%
St Joseph's Hamilton	(3,414,221)	338,904	5,122,971	(2,137,266)	(89,612)	-0.02%
Mount Sinai	466,031	(3,978,275)	(2,499,811)	1,339,367	(4,672,688)	-1.05%
St Michael's	1,014,921	(2,890,952)	(9,645,938)	(5,524,673)	(17,046,642)	-2.14%
LONDON HSC	2,392,284	2,707,413	7,087,524	9,213,219	21,400,440	1.67%
UHN	(1,777,037)	(5,747,684)	(3,947,219)	(4,526,588)	(15,998,528)	-0.92%
The Ottawa Hospital	(6,574,805)	3,113,041	2,562,768	(9,146,316)	(10,045,312)	-0.78%

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of Year 2000 funding. It is assumed that the peer hospitals would have been affected similarly.

[192] (AMOUNT) indicates Hospital Reported amount was LESS than MoHLTC reported. Wellesley is not included in St. Michael's total until 1998/99 in this analysis.

12.2.4 Hospital Revenues by Category

This group covers a wide range of organization size with the largest being almost four times larger than the smallest.

In this section differences among the hospitals that could affect the revenue comparisons are noted.

Hospitals report revenues for each of the following categories of payor in the MIS Trial Balance File:

- MoHLTC Funding
  - Base Funding
  - Provision for Recoveries
  - One-Time Payments
  - Other Votes
  - Paymaster
- Patient Revenue from Non-MoHLTC Sources
  - OHIP
  - Federal Government
  - Municipal Government
  - WSIB
  - Non-Residents of Province
  - Non-Residents of Canada
  - Uninsured Residents
  - Insured Residents – Self Pay
  - Other Payment Sources
- Differential Revenue
- Other Revenue

Non-MoHLTC patient revenues can be separated into inpatient and outpatient components. However, the application of MoHLTC Base Allocation to inpatient and ambulatory categories is not specified by the MoHLTC.

12.2.4.1 MoHLTC Funding

There is a large variation in the MoHLTC funding as a percentage of total revenue noted in the raw data. The variation is shown in Exhibit 12.8. The Ottawa Hospital consistently reported the lowest percentage of MoHLTC

Funding to Total Revenue. However, such percentage differences are affected by differences in the other categories of revenue, as well as differences in funding. The full picture must be considered before reaching a conclusion.

Exhibit 12.8
MoHLTC Funding as a Percentage of Total Hospital Revenue per Year-End Supplementary Reports
1996/97 – 1999/00

Hospital	1996/97	1997/98	1998/99	1999/00	Mean
St Joseph's Hamilton	83.9%	81.8%	85.6%	81.7%	83.3%
Mount Sinai	76.8%	75.5%	77.9%	75.5%	76.4%
St Michael's	85.6%	85.1%	83.7%	82.6%	84.3%
LONDON HSC	80.5%	79.5%	82.1%	83.0%	81.3%
UHN	79.1%	76.6%	75.7%	78.7%	77.5%
The Ottawa Hospital	73.6%	71.0%	71.7%	72.6%	72.2%
Mean	79.9%	78.3%	79.4%	79.0%	79.2%
Median	79.8%	78.1%	80.0%	80.2%	79.4%

12.2.4.2 Patient Revenue from Non-MoHLTC Sources

Exhibit 12.9 shows patient revenue from non-MoHLTC sources for 1998/99. This year has been used since it is the most recent year for which OCDM data is available, and OCDM costs will be needed for certain stages of the analysis. Provision for doubtful accounts is also shown in the exhibits. Since bad debts do reduce the actual amount of non-MoHLTC patient revenue, the net amounts will be used for subsequent analysis. Exhibits 12.10 and 12.11 show inpatient and outpatient revenue from non-MoHLTC sources separately.

Exhibit 12.9
Patient Revenue from Non-MoHLTC Sources
1998/99 Data

Hospital	Non-MoHLTC	Provision	Net Revenue	% Total
St Joseph's Hamilton	10,027,601	24,474	10,003,127	6.3%
Mount Sinai	11,937,468	134,686	11,802,782	8.2%
St Michael's	17,490,029	397,204	17,092,825	5.7%
LONDON HSC	23,013,062	(1,479)	23,014,541	5.8%
UHN	29,102,719	1,699,998	27,402,721	4.7%
The Ottawa Hospital	63,309,966	928,762	62,381,204	13.5%

Exhibit 12.10
Inpatient Revenue from Non-MoHLTC Sources
1998/99 Data

Hospital	IP Revenue	Provision	Net Revenue	% Total
St Joseph's Hamilton	863,345	5,276	858,069	0.5%
Mount Sinai	1,588,342	50,790	1,537,552	1.1%
St Michael's	2,862,484	-	2,862,484	1.0%
LONDON HSC	10,709,549	-	10,709,549	2.7%
UHN	12,469,302	-	12,469,302	2.2%
The Ottawa Hospital	22,783,346	815,736	21,967,610	4.8%

Exhibit 12.11
Outpatient Revenue from Non-MoHLTC Sources
1998/99 Data

Hospital	OP Revenue	Provision	Net Revenue	% Total
St Joseph's Hamilton	9,164,256	19,198	9,145,058	5.7%
Mount Sinai	10,349,126	83,896	10,265,230	7.1%
St Michael's	14,627,545	397,204	14,230,341	4.8%
LONDON HSC	12,303,513	(1,479)	12,304,992	3.1%
UHN	16,633,417	1,699,998	14,933,419	2.6%
The Ottawa Hospital	40,526,620	113,026	40,413,594	8.7%

The Ottawa Hospital receives significantly more revenue for patient care from non-MoHLTC sources than any of the other hospitals in this group. The makeup by source category is shown in Exhibit 12.12. The Ottawa Hospital has much higher out-of-province patient revenues than the peer hospitals due to its proximity to the Quebec border and the historical reliance of Outaouais residents on Ottawa hospitals for acute care.

Exhibit 12.12
Non-MoHLTC Patient Revenue by Source
1998/99 Data[193]

Hospital	OHIP	Federal	WSIB	Non-ONT	Non-CAN	Other
St Joseph's Hamilton	87.1%	0.1%	4.1%	1.6%	1.7%	5.4%
Mount Sinai	79.3%	0.9%	0.8%	6.8%	8.4%	3.8%
St Michael's	71.8%	0.7%	8.6%	3.9%	5.7%	9.3%
LONDON HSC	41.5%	0.8%	9.7%	23.9%	11.5%	12.6%
UHN	49.1%	1.8%	8.2%	22.6%	13.5%	4.9%
The Ottawa Hospital	42.7%	3.6%	2.7%	44.8%	3.0%	3.2%
Mean	61.9%	1.3%	5.7%	17.3%	7.3%	6.5%
Median	60.4%	0.8%	6.1%	14.7%	7.1%	5.2%

The difference between the Ottawa Hospital's non-MoHLTC patient revenue and the second highest hospital represents a difference of 5.3% of total hospital revenue. MoHLTC revenue as a percentage of total revenue should be lower for a hospital that provides a greater proportion of its patient care services to patients whose care is paid for by non-MoHLTC sources. Note that the two hospitals with the highest non-MoHLTC patient care revenue (Exhibit 12.9) also had the lowest MoHLTC funding as a percentage of total hospital revenue (Exhibit 12.8).

12.2.4.3 Differences in Outpatient Revenue Reporting

Outpatient revenue was compared with OCDM outpatient costs to identify if there were significant differences. This comparison was initiated to observe differing rates of outpatient revenue, especially from out-of-province sources. However, it highlights another data issue that may affect the analysis and comparisons.

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[193] "Non-ONT" stands for patients who are residents of Canada, but not Ontario. "Non-CAN" stands for patients who are not residents of Canada.

Outpatient revenue from non-MoHLTC sources was compared to OCDM outpatient cost for 1998/99. This comparison is shown in Exhibit 12.13. It appears that two of the hospitals (UHN and London HSC) use different accounting methods for outpatient revenue (since their outpatient revenue as a percentage of outpatient cost is significantly lower than the other hospitals in the group. Apparently, some hospitals are known to simply offset some OHIP revenues directly against professional fees rather than fully reporting both the revenue and the expense. All hospitals vary in their financial reporting practices, but when the amounts are this large the resulting comparisons can be distorted. For example, if UHN had reported the average percentage of outpatient revenue to OCDM cost, they would have reported an additional $25 million of outpatient revenue and outpatient expense, and (more importantly) their outpatient revenue would have been 6.6% of total revenue, not 2.6%. Adjusted amounts for UHN and LHSC are included in the exhibit for later reference.

Exhibit 12.13
Outpatient Revenue from Non-MoHLTC Sources
as a Percentage of OCDM Outpatient Cost
1998/99 Data

Hospital	OP Revenue	OP Cost	%
St Joseph's Hamilton	9,145,058	40,127,139	22.8%
Mount Sinai	10,265,230	36,993,009	27.7%
St Michael's	14,230,341	56,785,995	25.1%
LONDON HSC	12,304,992	85,730,082	14.4%
UHN	14,933,419	133,947,006	11.1%
The Ottawa Hospital	40,413,594	103,628,109	39.0%
LONDON HSC (ADJUST	24,705,966	98,131,056	25.2%
UHN (ADJUSTED)	39,995,027	159,008,614	25.2%

12.2.4.4 Differential Revenue

Differential Revenue is payment received for Preferred Accommodation such as semi-private or private rooms. Over the period 1996/97 through 1999/00 the Ottawa Hospital earned $67.3 million more than the next highest hospital in the group. Differential revenue has represented the highest percentage of total revenue (6.8%), much higher than the next highest (Mount Sinai, 4.4%). Three primary factors influence a hospital's performance in this category:

- A well-insured population, as most patients use supplemental health insurance coverage to pay for preferred accommodation
- A good balance of private, semi-private, and ward beds
- Effectiveness of the Hospital in taking advantage of the opportunities by maximizing placement of patients in their preferred accommodation

Preferred Accommodation Revenue for 1998/99 is shown for the hospitals in Exhibit 12.14.

Exhibit 12.14
Net[194] Differential Revenue - 1998/99 Data

Hospital	Net Diff Revenue	% Total
St Joseph's Hamilton	2,306,206	1.4%
Mount Sinai	6,065,138	4.2%
St Michael's	6,129,486	2.0%
LONDON HSC	10,170,273	2.6%
UHN	14,175,696	2.4%
The Ottawa Hospital	23,036,601	5.0%

12.2.4.5 Other Revenue

The BOND Program was introduced in 1984 to encourage hospitals to be more business oriented and in the process become more responsible for operating deficits. The incentive was "you can keep your surpluses." The expectation was "you cover your own deficits." No doubt, the world hasn't evolved exactly as envisioned, but other revenue has steadily increased as a percentage of total hospital revenue in the years since.

Over the period 1996/97 through 1999/00 the Ottawa Hospital recorded 8.1% of its total revenue from other revenue. This performance was below both the mean (9.6%) and the median (9.1%) for the group. Exhibit 12.15 shows other revenues and the percentage contribution to total revenue for each hospital in 1998/99.

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[194] Net of Bad Debts

Exhibit 12.15
Other Revenue - 1998/99 Data

Hospital	Other Revenue	% Total
St Joseph's Hamilton	10,041,908	6.3%
Mount Sinai	13,838,463	9.6%
St Michael's	20,095,585	6.7%
LONDON HSC	37,818,421	9.5%
UHN	96,726,145	16.7%
The Ottawa Hospital	43,859,587	9.5%

12.2.5 Comparison of Hospital Revenues

Comparison of hospital revenues requires matching revenues to expenses, since different cost patterns are accepted and funded. At the same time, it is recognized that hospitals are not all equally cost efficient. The best tool available to describe differences in cost patterns and differences in cost efficiency are actual cost per weighted case and expected cost per weighted case. In this comparison revenues are compared to direct care costs that have been adjusted for cost efficiency differences. The result is a "contribution to overhead."

The steps to develop contribution to overhead are described below.

1. ***Calculate Total Patient Revenue***: For the purposes of this analysis, the following revenues will be considered patient revenue: MoH Funding, Non-MoHLTC Patient Revenue & Differential Revenue. Differential revenue has been included since it is specifically linked to inpatient activity, and to avoid the need to make a special adjustment for relative performance in this category of inpatient related revenue. The calculation of total patient revenue is shown in Exhibit 12.16a. MoHLTC is as reported in MoHLTC Year End Supplementary Reports; Non-MoHLTC is Net Revenue calculated in Exhibit 12.9; Differential is as shown in Exhibit 12.14.

Exhibit 12.16a
Calculation of Total Patient Revenue
Using 1998/99 Data

Hospital	MoHLTC	Non-MoHLTC	Differential	Total
St Joseph's Hamilton	136,717,404	10,003,127	2,306,206	149,026,737
Mount Sinai	112,194,500	11,802,782	6,065,138	130,062,420
St Michael's	250,815,288	17,092,825	6,129,486	274,037,599
LONDON HSC	326,099,302	23,014,541	10,170,273	359,284,116
UHN	440,096,502	27,402,721	14,175,696	481,674,919
The Ottawa Hospital	331,778,629	62,381,204	23,036,601	417,196,434

2. ***Adjust Total Patient Revenue***: Total patient revenue must be adjusted to compensate for significant differences in reporting of outpatient Non-MoHLTC revenues & expenses (as described in section 12.2.4.3. The adjustment increases Outpatient Direct Costs for UHN and LHSC such that Non-MoHLTC outpatient revenues are similar to the other hospitals at 25% of outpatient direct costs. The adjustments affect UHN and London only as shown in Exhibit 12.16b.

Exhibit 12.16b
Calculation of Adjusted Total Patient Revenue
Using 1998/99 Data

Hospital	Total	Reported OP	Calculated OP	AdjustedTotal
St Joseph's Hamilton	149,026,737			149,026,737
Mount Sinai	130,062,420			130,062,420
St Michael's	274,037,599			274,037,599
LONDON HSC	359,284,116	12,304,992	24,705,966	371,685,090
UHN	481,674,919	14,933,419	39,995,027	506,736,527
The Ottawa Hospital	417,196,434			417,196,434

3. ***Calculate Total Direct Care Costs***: These costs are as calculated in the 1998/99 OCDM. The costs are shown by category in Exhibit 12.17a.

Exhibit 12.17a
1998/99 OCDM Direct Costs

Hospital	Acute IP	Outpatient	Other	Total
St Joseph's Hamilton	71,061,525	40,127,139	1,847,770	113,036,434
Mount Sinai	67,904,828	36,993,009		104,897,837
St Michael's	133,933,336	58,785,995		192,719,331
LONDON HSC	184,559,841	85,730,082	2,581,607	272,871,530
UHN	222,688,694	133,947,006		356,635,700
The Ottawa Hospital	242,800,584	103,628,109		346,428,693

4. ***OP-Adjusted Total Direct Care Costs***: Adjust Total Direct Care Costs for significant differences in reporting of outpatient Non-MoHLTC revenues & expenses (as described in section 12.2.4.3. The adjustment increases Outpatient Direct Costs for UHN and LHSC such that Non-MoHLTC outpatient revenues are similar to the other hospitals at 25% of outpatient direct costs. These calculations are shown by category in Exhibit 12.17b.

Exhibit 12.17b
Calculation of Adjusted 1998/99 OCDM Direct Costs

Hospital	Total	Reported OP	Calculated OP	AdjustedTotal
St Joseph's Hamilton	113,036,434			113,036,434
Mount Sinai	104,897,837			104,897,837
St Michael's	192,719,331			192,719,331
LONDON HSC	272,871,530	85,730,082	98,131,056	285,272,504
UHN	356,635,700	133,947,006	159,008,614	381,697,308
The Ottawa Hospital	346,428,693			346,428,693

5. ***Calculate Efficiency Adjustment***: Expected Cost per weighted Case is compared to Actual Cost per Weighted Case. The resulting factor is used to adjust direct care costs for efficiency differences. Note that the Expected and Actual cost per weighted case include allocated administrative and support services costs. Thus they take into account differences in operational cost efficiency of administrative and support services among the hospitals. It is assumed that outpatient cost efficiency differences are similar – that a hospital's outpatient services will be as efficient (or inefficient) as their inpatient services. The calculation is shown in Exhibit 12.18. Of the comparator group, Mount Sinai was the most cost efficient and St. Michael's the least cost efficient.

Exhibit 12.18
Calculation of Cost Efficiency Factor using Actual and Expected Cost per Weighted Case
1998/99 Data

Hospital	Actual	Expected	Factor
St Joseph's Hamilton	2,851	2,973	1.0427
Mount Sinai	3,216	3,620	1.1258
St Michael's	3,526	3,379	0.9583
LONDON Health Scienc	3,561	3,480	0.9773
TORONTO Hospital Cor	3,496	3,682	1.0532
The Ottawa Hospital	3,377	3,202	0.9482

6. ***Calculate Adjusted Direct Care Costs***: The cost efficiency factor is used to adjust the direct care costs so that the resulting adjusted direct care costs are based on similar levels of cost efficiency. The calculation is shown in Exhibit 12.19.

Exhibit 12.19
Calculate Adjusted Direct Care Costs

Hospital	AdjustedTotal	Factor	Adjusted Costs
St Joseph's Hamilton	113,036,434	1.0427	117,860,159
Mount Sinai	104,897,837	1.1258	118,093,412
St Michael's	192,719,331	0.9583	184,683,938
LONDON HSC	285,272,504	0.9773	278,793,353
UHN	381,697,308	1.0532	402,006,314
The Ottawa Hospital	346,428,693	0.9482	328,496,259

7. ***Calculated Contribution to Overhead***: The difference between patient care revenue (12.16b) and adjusted direct care cost (12.19) is the contribution to overhead. It is shown in Exhibit 12.20.

Exhibit 12.20
Calculate Contribution to Overhead

Hospital	Revenue	Adj. Costs	Contribution
St Joseph's Hamilton	149,026,737	117,860,159	31,166,578
Mount Sinai	130,062,420	118,093,412	11,969,008
St Michael's	274,037,599	184,683,938	89,353,661
LONDON HSC	371,685,090	278,793,353	92,891,737
UHN	506,736,527	402,006,314	104,730,212
The Ottawa Hospital	417,196,434	328,496,259	88,700,175

8. ***Calculate the Percentage Contribution to Overhead***: There are two ways to look at "percentage contribution to overhead." One perspective would consider that equitable funding would provide a consistent extra percentage to support overhead costs. This approach assumes that overhead costs should be consistent as a percentage of total costs from hospital to hospital. Equitable funding is achieved when each hospital receives the same extra percentage of direct care costs to support its overhead costs. For every $1.00 of direct care costs a hospital would receive $1.25, if the contribution to overhead were 25%. This would suggest that overhead costs vary in direct proportion to direct care costs which is not the case. Also, it is not clear that differences in overhead costs are not accepted and supported in the existing grant structures. For the analysis presented here, "percentage contribution to overhead" is defined as the percentage of overhead costs that are covered by the contribution (contribution/overhead). Differences in cost efficiency are at least partly taken into account through the Cost Efficiency Factor. This approach to the calculation of

contribution to overhead is shown in Exhibit 12.21. Note that the cost efficiency adjustment makes a significant difference to the result for Mount Sinai.

Exhibit 12.21
Calculate Percentage Contribution to Overhead

Hospital	Overhead	Contribution	%
St Joseph's Hamilton	32,562,464	31,166,578	95.7%
Mount Sinai	27,236,302	11,969,008	43.9%
St Michael's	75,486,486	89,353,661	118.4%
LONDON HSC	84,034,395	92,891,737	110.5%
UHN	140,110,274	104,730,212	74.7%
The Ottawa Hospital	114,728,447	88,700,175	77.3%
Mean			86.8%
Median			86.5%

12.2.6 *Impact of Achieving the Mean Percentage Contribution to Overhead*

This model is based on the premise that funding equity is achieved when the funding and revenues for direct care services contribute the same percentage of the overhead of the hospital. The model incorporates all patient revenues, and takes into account accepted differences in cost patterns. It also adjusts for differences in operating cost efficiency as measured by the expected cost per weighted case. Exhibit 12.22 shows the required change to move each hospital to the mean.

Exhibit 12.22
Calculate Change Required to Move to Mean Percentage Contribution to Overhead

Hospital	Overhead	%	Change
St Joseph's Hamilton	32,562,464	95.7%	(2,911,565)
Mount Sinai	27,236,302	43.9%	11,664,402
St Michael's	75,486,486	118.4%	(23,852,732)
LONDON HSC	84,034,395	110.5%	(19,973,640)
UHN	140,110,274	74.7%	16,845,895
The Ottawa Hospital	114,728,447	77.3%	10,851,682
Mean		86.8%	
Median		86.5%	

In fiscal 1998/99, the Ottawa Hospital generated an operating deficit of $30,586,566. If the Hospital's inpatient revenue had been at a level that provided a contribution to overhead equivalent to the mean of the peer group, it would have generated a smaller operating deficit of $19,734,884. The results are shown in Exhibit 12.23.

Exhibit 12.23
Calculate Change Required to Move to Mean Percentage Contribution to Overhead

Hospital	Surplus(Deficit)	Change	Surplus(Deficit)
St Joseph's Hamilton	(371,606)	(2,911,565)	(3,283,171)
Mount Sinai	370,682	11,664,402	12,035,084
St Michael's	(1,941,976)	(23,852,732)	(25,794,708)
LONDON HSC	15,446,460	(19,973,640)	(4,527,180)
UHN	(4,786,662)	16,845,895	12,059,233
The Ottawa Hospital	(30,586,566)	10,851,682	(19,734,884)
Mean	(3,644,945)	(1,229,326)	(4,874,271)
Median	(1,156,791)	3,970,059	(3,905,175)

Summary

Comparison of results for a group of hospitals will lead to the identification of some who appear to be high and some who appear to be low on a particular measure. The conclusions that we draw from a comparison have to be tempered by the accuracy of the data and the precision of the indicator. We do not have precise measures or indicators for comparing hospital funding and revenues. There is no single master formula that we can use to establish the exact amount of funding that would be appropriate for any one hospital. This analysis, however, does support the notion that The Ottawa Hospital did, during the period reviewed, receive less revenue than some of its peers for the direct inpatient care it provided. If one assumes that equitable funding is a system requirement, then the Ottawa Hospital could have claimed that it was under funded in 1998/99 by about $11 million.

Whatever amount might be suggested by this analysis, it must be recognized that it is an amount suggested by a model applied to 1998/99 data. A lot has happened since then. One of the peer group hospitals has undergone an operational review, and all hospitals have received significant additional funding in 1999/00 and in 2000/01. Any specific adjustment for the hospital must take into account those adjustments, as well as any significant changes in cost patterns since 1998/99.

The analysis presented in this report takes into account all sources of patient revenue, including Quebec inpatient revenue. A review of Quebec inpatient revenue conducted in early 2000 found that the decrease in Quebec inpatient revenue over the period 1994/95 through 1998/99 had eroded the hospital's annual operating results by some $6.6 million by 1998/99. The MoHLTC has recognized the problem, has accepted the report from the review and has provided the recommended additional funding of $6.6 million to the

Hospital. This shortfall in revenues for Quebec patients accounted for approximately 61% of the shortfall in contribution to overhead in 1998/99. If that additional funding had been included in this analysis, then the shortfall in Ministry funding would have been only $4.4 million in 1998/99.

12.3 Funding per Weighted Case

Another perspective will be shown in the following sections where an approach will be used to attempt to separate inpatient and outpatient costs and revenues so that a funding per weighted case indicator can be calculated.

12.3.1 Separating Inpatient and Outpatient Revenues

For this report, the key questions relate to inpatient funding and revenues. The analysis is made difficult by the fact that the MoHLTC base funding allocation supports both inpatient and outpatient services, and the inpatient portion is not separately identified. The following approach is used to approximate the inpatient portion of MoHLTC Funding:

1. ***Identify Percentage of Inpatient Activity that is Ontario Responsibility***: The calculation of Ontario percentage is shown in Exhibit 12.24. It was necessary to use 1999/00 CIHI Data since it was only in 1999/00 that a field was introduced to record responsibility for payment. For this analysis, it must be assumed that the Ontario percentage in 1998/99 was not significantly different from 1999/00.

Exhibit 12.24
Calculation of Ontario Inpatient Percentage
Using 1999/00 Data

Hospital	1998/99 Wtd Cases	1999/00 Ontario %	Ontario Wtd Cases
St Joseph's Hamilton	32,101	98.8%	31,716
Mount Sinai	26,563	98.2%	26,085
St Michael's	52,797	98.5%	52,005
LONDON HSC	67,564	97.3%	65,740
UHN	88,593	98.2%	86,998
The Ottawa Hospital	95,698	91.4%	87,468

2. ***Calculate Ontario Inpatient Cost***: The OCDM Net Acute Inpatient Cost represents the direct care cost for inpatient services. OCDM inpatient cost must be reduced based on the proportion of Ontario weighted cases to total weighted cases (Ontario %). The calculation is shown in Exhibit 12.25.

Exhibit 12.25
Calculation of Ontario Acute Inpatient Cost

Hospital	IP Cost	Ontario %	Ontario Cost
St Joseph's Hamilton	71,061,525	98.8%	70,228,727
Mount Sinai	67,904,828	98.2%	66,663,426
St Michael's	133,933,336	98.5%	131,872,574
LONDON HSC	184,559,841	97.3%	179,499,447
UHN	222,688,694	98.2%	218,595,107
The Ottawa Hospital	242,800,584	91.4%	221,869,793

3. ***Calculate Ontario Outpatient Cost:*** OCDM Net Direct Costs also provide a starting point for this analysis. The OCDM Net Outpatient Cost represents the direct care cost for outpatient services. Since there is no readily available volume measure, the Ontario outpatient cost will be approximated by reducing the OCDM Net Outpatient Cost by the outpatient revenue reported (Exhibit 12.17a). Exhibit 12.26 shows the calculation.

Exhibit 12.26
Calculation of Ontario Outpatient Cost
1998/99 Data

Hospital	OP Cost	OP Revenue	Ontario Cost
St Joseph's Hamilton	40,127,139	9,145,058	30,982,081
Mount Sinai	36,993,009	10,265,230	26,727,779
St Michael's	56,785,995	14,230,341	42,555,654
LONDON HSC	85,730,082	12,304,992	73,425,090
UHN	133,947,006	14,933,419	119,013,587
The Ottawa Hospital	103,628,109	40,413,594	63,214,515

4. ***Calculate Ontario Direct Care Cost***: Sum the Ontario Inpatient Cost (Exhibit 12.25), Ontario Outpatient Cost (Exhibit 12.26), and other direct OCDM costs (such as Rehabilitation). The Calculation is shown in Exhibit 12.27a. The amounts are shown as percentages in Exhibit 12.27b

Exhibit 12.27a
Calculation of Ontario Direct Care Cost
1998/99 Data

Hospital	Inpatient	Outpatient	Other	Total
St Joseph's Hamilton	70,228,727	30,982,081	1,847,770	103,058,578
Mount Sinai	66,663,426	26,727,779		93,391,205
St Michael's	131,872,574	42,555,654		174,428,228
LONDON HSC	179,499,447	73,425,090	2,581,607	255,506,144
UHN	218,595,107	119,013,587		337,608,694
The Ottawa Hospital	221,869,793	63,214,515		285,084,308

Exhibit 12.27b
Ontario Direct Care Cost – Percentage by Category
1998/99 Data

Hospital	Inpatient	Outpatient	Other	Total
St Joseph's Hamilton	68.1%	30.1%	1.8%	100.0%
Mount Sinai	71.4%	28.6%	0.0%	100.0%
St Michael's	75.6%	24.4%	0.0%	100.0%
LONDON HSC	70.3%	28.7%	1.0%	100.0%
UHN	64.7%	35.3%	0.0%	100.0%
The Ottawa Hospital	77.8%	22.2%	0.0%	100.0%

5. ***Calculate MoHLTC Funding for Ontario Inpatient***: Using inpatient percentage of Ontario cost from Exhibit 12.27b, multiply by the MoHLTC Funding for 1998/99. The Calculation is shown in Exhibit 12.28.

Exhibit 12.28
Calculation of MoHLTC Funding for Ontario Inpatient
1998/99 Data

Hospital	Funding	Inpatient %	Ontario
St Joseph's Hamilton	136,717,404	68.1%	93,165,357
Mount Sinai	112,194,500	71.4%	80,085,376
St Michael's	250,815,288	75.6%	189,623,308
LONDON HSC	326,099,302	70.3%	229,092,903
UHN	440,096,502	64.7%	284,953,983
The Ottawa Hospital	331,778,629	77.8%	258,210,128

12.3.2 MoHLTC Funding per weighted case

Calculate MoHLTC funding per weighted case by dividing calculated inpatient funding (from Exhibit 12.28) by the number of Ontario weighted cases (from Exhibit 12.24). The calculation is shown in Exhibit 12.29.

Exhibit 12.29
Calculation of MoHLTC Funding per Weighted Case
1998/99 Data

Hospital	Funding	Wtd Cases	/Wtd Case
St Joseph's Hamilton	93,165,357	31,716	2,937
Mount Sinai	80,085,376	26,085	3,070
St Michael's	189,623,308	52,005	3,646
LONDON HSC	229,092,903	65,740	3,485
UHN	284,953,983	86,998	3,275
The Ottawa Hospital	258,210,128	87,468	2,952
Mean			3,228
Median			3,173

12.3.3 Adjustment for Expected Cost per Weighted Case

Expected Cost per Weighted Case has been used as a factor in adjusting hospital funding in Ontario. It is an accepted tool for measuring and comparing hospitals in Ontario. The expected cost per weighted case (ECPWC) for 1998/99 is seen in Exhibit 12.30. Funding per Weighted Case (Fdg/WC) was calculated in Exhibit 12.29. In this step the difference between ECPWC and Fdg/WC is calculated (Diff), and the impact of moving the difference to the mean is calculated by multiplying the difference by the Ontario weighted cases (Wtd Cases). Now, taking into account cost differences, the potential funding shortfall for inpatient care for The Ottawa Hospital in 1998/99 was $7.7 million. If the calculation were based on the mean of the peers excluding TOH, the difference increases to $9.3 million.

Exhibit 12.30
Calculation of the Impact Including Cost Differences Based on Expected Cost per Weighted Case
1998/99 Data

Hospital	ECPWC	Fdg/WC	Diff	Adj WCs	Impact
St Joseph's Hamilton	2,973	2,937	(36)	31,716	(3,990,190)
Mount Sinai	3,620	3,070	(550)	26,085	10,130,681
St Michael's	3,379	3,646	267	52,005	(22,322,984)
LONDON HSC	3,480	3,485	5	65,740	(10,955,750)
UHN	3,682	3,275	(407)	93,975	23,052,740
The Ottawa Hospital	3,202	2,952	(250)	87,468	7,699,869
Mean			(162)		
Median			(143)		
Mean (Excl TOH)			(144)		
Median (Excl TOH)			(36)		

Summary

This approach that focused on inpatient funding and costs is consistent with the earlier, revenue based analysis in that it shows that in 1998/99 The Ottawa Hospital's funding per weighted case was below the mean of the peer group. The shortfall was less for this inpatient only analysis than for the broader based approach. Such a result is consistent with expectations, since inpatient activity represents about 70% of direct care.

The purpose of these revenue analyses has been simply to identify if there is evidence that the Ottawa Hospital was funded differently in 1998/99 in relation to its peers and to quantify to the extent possible any under funding. If equity is an objective of the funding of hospitals, then these analyses suggest that The Ottawa Hospital was under funded by approximately $11 million in 1998/99. Of this putative under-funding, $6.6 million has already been identified by the Outaouais analysis and report in 2000 and recognized and rectified by the Ministry.

It was not the purpose of these revenue analyses to define a new funding methodology for the province (the MoHLTC is already investigating alternative approaches) nor a new funding level for The Ottawa Hospital. It was merely meant to investigate and better understand the revenues and funding of The Ottawa Hospital in relationship to its peers.

13.0 Recommendations for Change

The following provides a listing of the recommendations discussed and presented in the previous chapters of this report.

13.1 Background and Objectives

No recommendations in this chapter.

13.2 Background and Objectives

No recommendations in this chapter.

13.3 Governance and Management

Governance Structures & Processes

(1) The Governance Committee of the Board of Trustees should rewrite the hospital's bylaws to ensure that board members to form a majority of the members of the Nominations Committee.

(2) The Board Chair should split the Planning and Facilities Committee into a Planning Committee and a Facilities Committee.

(3) The Planning Committee should initiate a process to develop a role statement and long range plan for the hospital.

(4) The Board should take more responsibility for the financial health of the hospital by insisting that management aggressively pursue opportunities to minimize hospital costs before seeking additional funding from the Ministry.

(5) The CFO should further expand and enhance financial and statistical reporting to the Board to include more comprehensive analyses of variances from plan that provide not only the cause of the variance but also potential corrective actions.

(6) The CFO should further expand and enhance statistical performance reporting to the board to provide comparisons with similar hospitals in Ontario.

(7) The Chairman of the MAC should work with the President of the Hospital to establish a mechanism for measuring and monitoring the quality of medical care at the hospital that is accountable to the MAC and through the MAC to the Board of the hospital.

Management Structures & Processes

(8) The Chair of the Board should modify the process for setting annual objectives for the hospital so that the time period for these objectives is in alignment with the time period of the operating plan, budget and CEO performance appraisal.

(9) The CFO should modify the operational planning and budgeting process to more formally and explicitly include consideration of patient volume, content of care, departmental workload and productivity.

(10) The CFO should introduce 'continuous improvement concepts into the hospital's operational planning and budgeting process.

(11) The Hospital Vice Presidents should ensure that managers are consulted in the reformulation of budgets to achieve overall targets and that the rationale for final budgets for their areas is communicated and explained.

(12) The Ministry of Health should provide a clear, comprehensive and timely indication of the funds for continued hospital operations in advance of each fiscal year.

(13) The CEO and CFO of the Ottawa hospital should take measures to improve the accuracy of the hospital's operational planning and budgeting processes.

(14) The Ministry of Health should clearly indicate the total funding that will be provided to the Ottawa Hospital for continuing operations and restructuring.

(15) The Ottawa Hospital should develop and implement plans to provide hospital services to its catchment population within the revenues committed to it from the Ministry of Health and available to it from other sources

(16) The CEO and Senior Management should make cost management and productivity improvement a priority of management and staff throughout the organization.

(17) The CFO should extend the type of variance reporting available at the General site to managers at the other two sites.

(18) The CFO should expand reporting and variance analysis at all levels of the organization to focus on both current period and year-to-date measurement and analysis.

(19) The CFO should ensure that all analysis of variance includes consideration of the implications of the variance for year-end departmental, program and hospital results.

Medical Staff Involvement in Management

(20) The Board Chair should establish a Joint Conference Committee to improve communication between the board and the medical staff of the hospital.

13.4 Programs and Clinical Review

Populations' Utilization of Hospital Programs

(21) The Ottawa Hospital should only selectively replace ophthalmologic surgeons until Ottawa-Carleton population utilization rates for ophthalmologic surgery are more consistent with those in other communities in Ontario.

(22) The Hospital and MOHLTC should sponsor a 3rd party clinical review of the medical necessity of ophthalmologic procedures for the residents of Ottawa-Carleton.

Population Dependence on TOH

(23) The Ministry of Health and Long-Term Care should establish a joint planning committee to develop strategies to support patriation of non-tertiary hospital care from the Ottawa Hospital to Ottawa area community hospitals.

Utilization Management Processes

(24) The Ottawa Hospital Clinical Quality Resource Management Committee should incorporate Canadian teaching hospital length of stay benchmarks in length of stay performance reports and expected date of discharge targets.

(25) The Ottawa Hospital Clinical Quality Resource Management Committee should ensure that physician-specific utilization reports are routinely distributed to all active Ottawa Hospital physicians.

Utilization, Clinical Efficiency and Hospital Operating Costs

(26) The CEO and the CQRM process should set utilization management/clinical efficiency targets that will achieve reductions in patient days approaching 11% over the next two years.

(27) The CEO, the Program Vice Presidents and Program Medical Directors should set workload and productivity targets that will provide for cost reductions from clinical efficiencies approaching $14 million per year within 2 years.

(28) The CFO and the Program Vice Presidents should work to minimize the impact on revenues of the reduction in

patient days but should plan for a reduction in room differential revenues approaching $3 million.

13.5 Teaching and Research

No recommendations in this chapter.

13.6 Departmental Reviews

13.6.1 Nursing Services

Overview and Common Findings

(29) The Program Medical Directors and the Program Vice Presidents should work together to ensure a reduction in occupancy rates and the related volume of transfers as the hospital's utilization management processes reduce lengths of patient stay at the hospital.

(30) The Program Vice Presidents should ensure that necessary replacement of patient beds and other required patient care equipment is a priority in the hospital's budgeting processes.

(31) The Vice President, Facilities Management should implement a structured preventative maintenance program for basic equipment such as beds and wheel chairs at all campuses.

(32) The CEO, Program Vice Presidents and the Chief Nursing Officer should ensure greater consistency in the implementation of program management across all campuses.

(33) The Program Vice Presidents should ensure that the program organizational structures align nursing management consistently across all programs in relation to their prescribed role within the program management model at the Hospital.

(34) The Program Vice Presidents and the Vice President, Human Resources should aggressively implement the hospital's attendance management program.

(35) The Vice President of Nursing should improve and standardize the processes for securing and managing staff replacements at all campuses.

(36) The Vice President Nursing and the Clinical Directors should give priority to the re-implementation and use of nursing workload measurement

(37) The Vice President Nursing should develop a less costly approach to re-implementation of nursing workload measurement than the currently planned $2 million project.

(38) The Chief Nursing Officer and the Vice President Nursing should clarify the roles and responsibilities of Clinical Managers and Team Leaders.

(39) The Chief Nursing Officer and the Vice President Nursing should establish more consistency in the role of RPNs across all campuses.

(40) The Chief Nursing Officer and the Vice President Nursing should work more closely with the community college in the recruitment and training processes for the PCA.

Review of Program Services

(41) The Program Vice Presidents should allocate staffing resources to nursing within the medical and surgical programs based on a combined productivity target of 6.7 worked hours per patient day

(42) The Vice Presidents and Clinical Directors of Medicine and Surgery in partnership with the VP Nursing and Chief Nursing Officer should establish unique productivity targets for medical and for surgical nursing that maintain the overall performance target of 6.7 hours per patient day.

(43) The Vice President and Clinical Directors within Surgery, in partnership with the VP Nursing and Chief Nursing Officer should establish unique productivity targets for each surgical nursing unit that maintain the overall target established for the program.

(44) The Vice President and the Clinical Directors within Medicine, in partnership with the VP Nursing and Chief Nursing Officer, should establish unique productivity targets for each medical nursing unit that maintain the overall target established for the program.

(45) The Program Vice Presidents in partnership with the Vice President Nursing and the Chief Nursing Officer should increase the program specific nursing productivity targets to reflect the hospital's success in reducing ALOS within each program

(46) The Program Vice Presidents should review and determine the appropriate role and location of each of the ambulatory clinics to achieve greater efficiencies and quality of care.

(47) The Program Vice Presidents and the Medical Directors should work together to identify and consolidate clinic activity at the Riverside Campus that does not require high intensity diagnostic or therapeutic services.

(48) The Program Vice Presidents and the Medical Directors should work to achieve an aggregated clinic productivity level of 0.76 hrs per visit.

(49) The Vice President, Surgery should improve the efficiency of the outpatient ORs to approach a productivity level of 3.3 hrs/visit

(50) The Vice President, Surgery should improve the efficiency of the endoscopic service to approach a productivity level of 2.3 hrs per visit.

(51) The CEO should work with the MOH to ensure an appropriate number of ICU beds and adequate space for the delivery of intensive care services.

(52) The Hospital should replace the beds in the ICU with new/appropriate critical care beds.

(53) The Clinical Director should reduce staffing levels in the ICUs to achieve a productivity level of 24.5 worked hours per patient day.

(54) The Clinical Director should reduce staffing level in the CCU to achieve a productivity level of 15.00 worked hours per patient day.

(55) The Vice President, Obstetrics and Gynecology and the Clinical Director of the Birthing Program should restructure the Birthing Program as whole to achieve productivity levels of 15.45 hrs/pd for the NICU and 9.56 hrs/pd for the rest of the birthing program.

(56) The Vice President, Surgery and the Clinical Directors for the Surgery Portfolio should reduce, if not eliminate the number of overnight stays in the PACU.

(57) The Vice President, Surgery and the Clinical Directors for the Surgery Portfolio should eliminate its dependence on the PACU as a site for ICU and CCU care.

(58) The Clinical Directors for Mental Health and the Vice President Facilities Management should work together identify cost effective ways to renovate facilities that will reduce the need for sitters.

Emergency

(59) The CEO and Vice President responsible for the ED should expedite the redevelopment of the Emergency Departments at the Civic and the General Campuses.

(60) The Vice President responsible for the ED should develop a long-term strategy to contain or reduce the community's reliance on and the costs of the Acute Care Medical Centre.

(61) The Clinical Director and Medical Director for the ED should enhance the Emergency Department Tracking System.

(62) The Clinical Director and Medical Director for the ED should work with the VP Medical Affairs to reduce the time between a consultation and a definitive decision to admit or discharge.

(63) The CEO should develop an alternative to using the ED as a venue for holding patients prior to release or transfer from the hospital

(64) The Vice President and the Clinical Director for the ED should eliminate the practice of holding patients in the Emergency Departments

Nursing Administration

(65) The Vice President Nursing and the Chief Nursing Officer should realign and eliminate staff in nursing administration functional centres to achieve the recommended performance target for nursing administration of a net cost of 1.32% of the total cost of hospital operations.

(66) The CEO should review and ensure an adequate level of infrastructure support for the Chief Nursing Officer to facilitate the development of the Nursing Practice Plan.

13.6.2 Diagnostic & Therapeutic Services

Clinical Laboratories

(67) The Director of Laboratory Services and the Director of SPD work together to implement new early morning specimen collection practices at the Civic Campus that minimize reliance on porters for specimen pickup and transportation to the Laboratory.

(68) The Vice President of Professional Services and Director of Laboratory Services should reduce staffing levels in the Clinical Laboratories to achieve a productivity level of 0.021 (M&O & UPP) worked hour per patient care workload unit.

Diagnostic Imaging (Excl. Cath lab)

(69) The Director of Diagnostic Imaging and the Director of SPD should work together to ensure that current organization of portering resources and related operational practices are not adversely impacting the productivity and through put of the Diagnostic Imaging Department.

(70) The Vice President of Professional Services should proceed with the implementation of the PACS technology.

(71) The Vice President of Professional Services should reduce staffing and supply costs across the Diagnostic Imaging Functional Centres to achieve a productivity level of 0.023 total worked hours per workload unit, a supply usage of $0.19 per workload unit, and increased revenues of $700,000.

Pharmacy

(72) The Director of Pharmacy should establish a formal drug utilization review process that would have as one of its goals the identification of savings in formulary costs and/or drug usage.

(73) The Director of Pharmacy should develop a business case to determine the feasibility for conversion to an automated unit of use dispensing system.

(74) The Directors of Pharmacy and Finance should work together to ensure that costs are captured and reported in a consistent manner across campuses.

13.6.3 Support and Administration Services

Patient and Non-Patient Food Services

(75) The Director of Food Services should work with other support departments (SPD, Housekeeping) to develop and implement consistent operational processes and accountabilities across campuses.

(76) The Vice President of Facilities Management and the Director of Food Services should conduct a cost benefit analysis for the feasibility of centralized plating services serving both campuses as compared the current practice of plating on both campuses.

Biomedical Engineering

(77) The Vice President Facilities Management should ensure that the costs of services provided to other organizations are appropriately recovered.

(78) The Vice President Facilities Management should reduce operating costs by $150,000 to account for service agreements no longer provided.

(79) The Vice President Facilities Management should conduct a study to verify the feasibility and potential savings ($154,000) to be realized from an increased reliance on internal services.

(80) The Vice President Facilities Management should reduce operating costs by $100,00 through the redesign of the work order system.

(81) The Vice President of Finance should ensure that all resources and costs associated with Renal Dialysis are captured within the Renal Dialysis functional centre.

(82) The Vice President of Finance should transfer accountability for the 3.99 in Materials Management responsible for the repair and maintenance of life support, O2 and gas equipment to Biomedical Services.

Materials and Supply Management

(83) The Vice President of Finance should aggressively move to implement improved supply management processes and reduce related staffing (45.5 FTEs) to achieve the recommended performance target for Materials Management of a net cost of 2.74% of the total net cost of the hospital.

(84) The Director of Purchasing should establish purchasing targets to achieve an additional $1.2 million in purchase price savings beyond those currently targeted, and target 80% of the previous year's savings for the next 4 years following.

(85) The Director of SPD should improve the inventory turnover to at least 15 times per year, and then continue to increase inventory turnover as appropriate.

Admitting and Registration

(86) The Vice President Nursing and Director of Admitting should quantify the costs associated for services (such as statistical reporting, admission audits, bed control maintenance, etc.) currently provided to the Heart Institute and negotiate the cost recovery of these services or discontinue to provide these services.

(87) The Vice President of Nursing and Director of Admitting Services should quantify the services currently provided to Professional Building adjacent to the Riverside Campus and negotiate the cost recovery of these services or discontinue to provide these services.

(88) The Vice President of Finance should ensure that the contracted arrangement with the Department of National Defense appropriately recovers costs associated with the admitting service.

(89) The Vice President of Nursing and Director of Admitting should develop and implement standardized policies, processes and accountabilities for patient registration across TOH.

(90) The Directors of Admitting and Finance should work together to develop a patient focused service model that integrates front line registration and accounts collection activities.

(91) The Directors of Admitting and Information Systems should work together to develop and implement a plan to extend on-line registration activities to physician offices.

(92) The President and CEO should implement consistent policies across campuses with respect to male and female inpatient room co-occupancy.

(93) The Vice President of Medical Affairs should ensure that medical inpatient rounds are conducted sufficiently early in the morning so that patients may be discharged in accordance with the 1000 discharge hour.

Health Records

(94) The Director of Health Records should investigate alternative approaches to transcription services, such as external service providers and at-home transcription.

(95) The Director of Health Records should quantify the additional costs/resources required to eliminate the Civic Campus transcription backlog created as a result of implementing a common transcription system across the three campuses.

(96) The Vice President of Finance should seek MoHLTC restructuring reimbursement related to the costs/resources required to eliminate the Civic Campus transcription backlog.

(97) The President and CEO should transfer the 16.0 FTEs currently under SPD Management to Health Records.

(98) The Vice President of Medical Affairs and Director of Health Records should undertake the development and

implementation of new policies, procedures and staffing requirements as a result of implementing new systems.

(99) The Director, Health Records should develop a plan for unifying and integrating records from across campuses into a single TOH record (maintained at the campus where service is provided) and to be rolled out as the single Master Patient Index is implemented.

(100) The Vice President of Medical Affairs should reduce staffing (by 23.56 FTEs) as new systems and operational processes are rolled out to achieve a performance level of 1.13 total worked hours per workload unit.

Housekeeping Services

(101) The Director of Housekeeping should re-evaluate the current scope of activities and staff allocations across campuses to identify opportunities to better balance resources across campuses.

Plant Maintenance And Operations

(102) The Vice Presidents of Facilities Management and Finance in conjunction with other organization on the Alta Vista Campus, should initiate negotiations with Trans Alta for changes in the contract for energy services.

(103) The Vice President of Facilities Management should review and resubmit the business case for Cogeneration at the Civic Campus to confirm cost benefits and payback periods.

(104) The Vice President of Facilities Management should review and resubmit the business case for lighting retrofit at the Civic Campus to confirm cost benefits and payback periods.

(105) The Director of Engineering and Operation should pursue the short-term initiatives identified in this report and reduce TOH's net operating costs to $59.63 per square metre.

(106) The Vice President of Facilities should ensure that TOH is operating in accordance with the appropriate Occupational Health and Safety regulations.

(107) The Vice President Finance should ensure that external recoveries are properly reported in the functional centres providing the services as per MOHLTC reporting guidelines.

Human Resources

(108) The Vice President Human Resources should ensure that modified work hours are captured and reported in accordance with MoHLTC reporting requirements.

(109) The President should ensure that TOH realizes productivity savings based on modified workers providing 35% of the capacity for work of regular staff. This should provide for a staffing reduction of 7.48 FTEs.

(110) The Vice President of Human Resources should develop a business case for the replacement of the payroll system.

(111) The Vice President Of Human Resources in conjunction with stakeholders throughout the organization should undertake a work redesign project to ensure that human resources functions are carried out in a prompt and efficient manner.

(112) The Vice President Human Resources in conjunction with the Vice President in charge of educational services should review the total educational services provided within the hospital.

Telecommunications

(113) The Vice President Information Systems should implement the Unified Telephony project and reduce FTEs and non-labour expenses to achieve a performance target for Telecommunications a net operating cost of 0.42% of total Hospital net operating costs.

13.7 Impact of Subsidiary and Hosted Organizations on The Ottawa Hospital

Interdependencies with Subsidiary and Hosted Organizations: University of Ottawa Heart Institute, Ottawa Regional Cancer Centre

(114) The Chair of the Board of Trustees of The Ottawa Hospital should renegotiate the Service Agreement with the Ottawa Heart Institute to ensure that it has the right and ability to assume the management of the Heart Institute for issues of patient safety and quality as well as for issues related to the Heart Institute's debt.

(115) The CFO of the Heart Institute should negotiate, obtain and manage a separate line of credit to deal with short-term cash deficiencies.

Implications of Subsidiary Organizations for Efficiency and Costs

(116) The Vice President Finance should ensure that the cost allocation bases reflect as accurately as possible only the actual costs of providing services to the subsidiary and hosted organizations and do not include any profit related revenues.

(117) The Vice President Finance should work with the ORCC to develop consistent approaches and methodologies for recovering ORCC related service costs across the campuses of The Ottawa Hospital.

(118) The Vice President Finance together with the subsidiary organizations should review and revise as necessary cost allocation methodologies on an annual basis.

13.8 Findings Related to Facilities Planning and Redevelopment

(119) The Vice President Strategic Planning should undertake the development of a new TOH Master Plan that encompasses all current plans for programs and services.

(120) The Vice President Strategic Planning should update the Functional Programs to reflect the new TOH Master Plan.

(121) The Vice President Strategic Planning should ensure that TOH's detailed HSRC variance templates are prepared in accordance with the formats requested by the MoHLTC.

(122) The Vice President Strategic Planning should determine the redevelopment priorities for the hospital that reflect the HSRC directions and the hospital's realistic financing capabilities.

(123) The CEO together with the MoHLTC and in conjunction with all Alta Vista Health Science Campus tenants should initiate development of an Alta Vista Health Sciences Campus Master Development Plan.

13.9 Information Systems Acquisition and Implementation

(124) The Vice President Information Services should reduce costs as planned related to software maintenance, purchased services and overtime.

(125) The Vice President Information Services should develop a long-term capital plan for IS that reflects high-level needs articulated in an IS Strategy, corporate business plans, and a sustainable, realistic level of ongoing investment in IS (including evergreening of current systems, and implementation of high-priority initiatives).

(126) The Vice President Information Services should evaluate current information resources vis-à-vis value and benefits

realized/realizable, and assess the cost-benefits of the FARMM system in particular.

(127) The CEO and Vice President Information Services should ensure that the benefits of IS are planned and realized, with a focus on leveraging IS to bring about improvements in overall effectiveness/ efficiency of the Hospital and health care system.

14.0 Implementation Plan

Because of the perilous state of the hospital's finances, we urge the hospital to focus its first efforts on:

- reducing its operating costs through the identified clinical and operational efficiencies and
- working with the Ministry to adjust its funding to recognize the changes in the cost of labour from wage standardization and province-wide bargaining.

Once these efforts have been initiated it should then turn its attention to implementing the recommendations of this report related to governance and management.

The implementation plan involves a series of somewhat independent initiatives related to:

- Achieving savings from clinical efficiencies
- Achieving savings from improvements in functional centre productivity that can be achieved without a facilitating capital investment.
- Focusing capital activity in areas that will generate the maximum fiscal benefit to the hospital
- Redesigning work processes and systems to take maximum advantage of the hospital's capital investments
- Implementing recommended improvement in management processes
- Implementing recommended improvements in governance structure and processes

Exhibit 14.1 presents an overview of the recommended implementation activities.

Exhibit 14.1: Implementation Activities

1 Review and confirm acceptance of report and recommendations
  1.1 Review report and recommendations with Board
  1.2 Develop and implement communication plan
2 Negotiate recovery plan with Ministry of Health
3 Enhance utilization management processes
4 Develop an implement plan to achieve year 1 clinical efficiency savings
5 Clinical review of ophthalmologic surgery
6 Develop an implement plan to achieve year 1 operational efficiency savings
  6.1 Nursing Admin
  6.2 ICU - Med/Surg
  6.3 ICU - Neonates
  6.4 ICU - Coronary Care
  6.5 Birthing Program
  6.6 Outpatient ORs
  6.7 Endoscopy
  6.8 Outpatient Clinics
  6.9 Clinical Laboratories
  6.1 Diagnostic Imaging
  6.11 Registration
  6.12 Health Records
  6.13 Telecommunications
  6.14 Information Systems
  6.15 Materials Management
  6.16 Plant Maintenance
  6.17 TOH Modified Work Replacement
7 Develop and implement a plan for facility renovation/development
  7.1 ICU-Med/Surg (General Campus)
  7.2 ICU-Med/Surg (Civic Campus)
  7.3 ICU-Neonates
  7.4 Clinical Laboratories
8 Develop and implement a plan for system acquisition/enhancement
  8.1 Health Records
  8.2 Materials Management
  8.3 Plant Maintenance
  8.4 Biomedical
9 Implement plan for technology acquisition and equipment replacement
  9.1 Diagnostic Imaging
10 Develop and Implement a process for long-range & strategic planning
11 Develop and implement refined operational planning & budgeting process
12 Design, develop and implement improved reporting to board and management
13 Restructure governance structures and processes for planning, facilities & nominations
14 Review and refine roles and relationships of Chief of Staff and MAC
15 Restructure relationship with Heart Institute
16 Develop and implement a plan to achieve year 2 clinical efficiency savings
17 Develop and implement a plan to achieve year 2 operational efficiency savings
  17.1 Nursing Admin
  17.2 ICU - Med/Surg
  17.3 ICU - Neonates
  17.4 ICU - Coronary Care
  17.5 Birthing Program
  17.6 Outpatient ORs
  17.7 Endoscopy
  17.8 Outpatient Clinics
  17.9 Clinical Laboratories
  17.1 Diagnostic Imaging
  17.11 Registration
  17.12 Health Records
  17.13 Telecommunications
  17.14 Information Systems
  17.15 Materials Management
  17.16 Plant Maintenance
  17.17 TOH Modified Work Replacement
18 Develop and implement a plan to achieve year 3 operational efficiency savings
  18.1 Clinical Laboratories
  18.2 Diagnostic Imaging
  18.3 Health Records
  18.4 Materials Management
  18.5 Plant Maintenance
  18.6 TOH Modified Work Replacement
19 Develop and implement a plan to achieve years' 4 & 5 operational efficiency savings
  Diagnostic Imaging
  Health Records
  Materials Management
20 Report to Ministry on Progress

The key elements of this implementation plan are discussed briefly in the paragraphs following.

Review Report and Recommendations

The first implementation step will be for the hospital to review the report and recommendations. The hospital should identify and plan for those recommendations that it accepts and is willing to implement.

An important component of this activity will be to communicate to key stakeholders the findings and recommendations of the review and the hospitals response.

Negotiate Recovery Plan with Ministry of Health

The overall objective of this review has been the development of a recovery plan to make strategic, operational and management improvements to achieve a positive financial position consistent with the delivery of effective and efficient hospital services. The recommendations of this report, if implemented will allow the hospital to achieve significant efficiencies in its clinical and operational processes. Based on the findings and recommendations of the review the Hospital should negotiate with the Ministry of Health to establish:

- An appropriate base budget for the hospital
- A strategy and a plan for reducing the hospital's operating costs as recommended in this review
- A strategy and a plan for restoring the hospital's working capital to a positive position
- A strategy and a plan for financing the redevelopment of hospital facilities in accordance with the directives of the HSRC

Clinical Efficiencies

Given the robustness of its structures and processes for utilization management, we feel that the savings from clinical efficiencies will be the most quickly realizable. We expect that some of these savings have already been achieved in 2000/01. The remainder of the savings should be achievable over the next two fiscal years. We would expect that the ALOS and thus number of patient days will decline steadily over the two year period as

- hospital systems improve,
- physicians are able to finish the course of treatment more quickly and as
- physicians begin to write discharge orders for their patients more quickly after the completion of the episode of care.

Also, we would expect that discharge planning will develop protocols that will involve earlier planning for discharge for those programs and patients with the most significant opportunities for reductions in length of stay. As has been discussed, we expect that clinical efficiencies will provide net annual operating impact of $3.5 million in 2001/02 and an additional $3.5 million impact in 2002/03. Clinical efficiencies should provide an improvement of over $7 million over TOH operating results in 1999/00[195].

Operational Efficiencies

Operational efficiencies and related increases in revenues may take as long as 5 years to fully realize. Some of these savings are dependent on facility development, system acquisition and/or technology acquisition. However, significant savings are available to the hospital without the need for any capital investment. These savings totaling as much as $10 million were likely available to the hospital in 1999/00 and will be available to the hospital within the first year of this implementation period (and some of the savings may have been realized in 2000/01). An additional $14.5 million in savings and revenue increases will be available as a result of recently completed or proposed capital investments by the hospital.

Capital Investments

As has been discussed, several of the potential improvements in productivity, cost reductions and revenue increases are dependent on capital investments by the hospital. To help resolve the hospital's fiscal problems, these should proceed as quickly as possible (at as low a cost as possible). The most important of these investments will relate to:

- Intensive Care Units at the General and Civic Campuses
- Neonatal Intensive Care Unit
- Laboratory Redevelopment[196]
- Acquisition of Diagnostic Imaging PACs Software and Imaging Technology[197]

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[195] There is also an opportunity for the Heart Institute to improve its operating results by approximately 1.3 million from improved clinical efficiency.

[196] This should proceed in anticipation of the EORL but at a capital cost that is supportable by the no more than 3 years of laboratory cost savings and increases revenues projected for the hospital. If laboratory redevelopment costs exceed 3 years of projected savings and revenues, then the hospital should defer the project until it can be incorporated into the funding and cost savings of EORL.

[197] Full introduction of PACs will be dependent on PACs capable imaging equipment. It may be reasonable to accelerate equipment acquisition to achieve the associated savings, but funding for the replacement equipment has been

- Information Systems for Health Records, Materials Management, Plant Maintenance & Biomedical Engineering[198]

The cost reductions/revenue increases facilitated by these capital activities are quite significant (Approaching $12.5 million). If the capital costs are reasonable relative to the potential savings, the hospital should proceed with these capital initiatives as soon as possible.

Other capital activity should be deferred until the hospital has achieved both an operating surplus an a positive working capital position.

Governance & Management Processes

Although the hospital has reasonably robust governance and management processes, there are still some significant opportunities for improvement. These include:

- Development of a long-range plan and a supporting strategic plan
- Enhancement of the operational planning & budgeting processes
- Improved reporting for the board, senior management and functional centre managers
- Restructuring of governance structures and processes for planning, facilities & nominations
- Refinement of the roles and relationships of Chief of Staff and MAC in the context of program management and quality monitoring on behalf of the board
- Restructure the hospital's relationship with Heart Institute to better align the hospital's accountabilities with its oversight and control capabilities.

Although all of these are important to the success of the hospital, we feel that initiatives to restore the financial health of the hospital and ensure its long-term viability should take precedence. As a result, with the exception of restructuring the relationship with the Heart Institute, we feel that these activities should be deferred until the hospital can begin work on achieving the targeted clinical and operational efficiencies.

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provided, at least partially by depreciation of the old equipment. The Ministry might finance equipment acquisition, but the cost of most of the equipment is the responsibility of the hospital.

[198] The dependency of the savings on systems acquisition has been claimed by the hospital but not confirmed by the analysis by the consultants.

Progress Reporting to the Ministry

Because of the likely need for Ministry support until the hospital achieves the targeted cost savings and revenue enhancements, it will be incumbent on the hospital to account for its progress toward achieving these targets.

The following table presents our suggested scheduling of initiatives to improve the governance, management and efficiency of the hospital. It also presents estimates of the savings that will be achievable in each year and their impact on the hospital's estimated working funds deficit of $147 million at the end of 2000/01. For the purposes of this exercise, we have assumed no changes in patient volume, content of care or the unit cost of labour, supplies and services from 1999/00.

As can be seen, over the next 3 years, the hospital should be able to achieve 95% of the impact of the improvements in clinical and operational efficiency identified in this review. These changes will provide a reduction in the hospital's operating losses of close to $30 million. However, even after this improvement, the hospital will still be left with an operating deficit exceeding $34 million[199]. Also, the hospital's working capital deficit will increase to $277 million by the end of 2003/04. Clearly, the hospital will need to secure additional revenues to achieve a positive fiscal position. If additional revenues are not available to the hospital, it will need to dramatically reduce either the content or volume of care that it provides for the populations in its catchment area.

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[199] Using the hospital's 1999/00 costs of labour and materials to estimate the potential savings potential.

Exhibit 14.2: Implementation Schedule[200]

Implementation Activities	2001/02		2002/03		2003/04	
	1-6	7-12	1-6	7-12	1-6	7-12
1 Acceptance of report and recommendations	■					
2 Negotiate recovery plan with Ministry of Health	■					
3 Enhance utilization management processes	■	■				
4 Achieve year 1 clinical efficiency savings		■				
5 Clinical review of ophthalmologic surgery	■	■				
6 Achieve year 1 operational efficiency savings	■	■				
7 Facility renovation/development						
7.1 ICU-Med/Surg (General)	■	■				
7.2 ICU-Med/Surg (Civic)	■	■				
7.3 ICU-Neonates	■	■				
7.4 Clinical Laboratories	■	■	■	■		
8 System acquisition/enhancement						
8.1 Health Records	■	■				
8.2 Materials Management	■	■				
8.3 Plant Maintenance	■	■				
8.4 Biomedical	■	■				
9 Diagnostic Imaging Technology	▨	▨	▨	▨	▨	▨
10 Long-range & strategic planning		■				
11 Operational planning & budgeting process		■				
12 Improved reporting to board and management		■				
13 Restructure governance			■			
14 Roles of Chief of Staff and MAC			■			
15 Relationship with Heart Institute	■					
16 Achieve year 2 clinical efficiency savings			■	■		
17 Achieve year 2 operational efficiency savings			■	■		
18 Achieve year 3 operational efficiency savings					■	■
20 Report to Ministry on Progress						
TOH Opening Funds Position - April 1	$ (147,400,000)		$ (199,562,485)		$ (240,587,369)	
TOH Operating Surplus(Deficit) - Operations	$ (45,000,000)		$ (30,976,710)		$ (21,654,302)	
Restructuring Costs (net of reimbursement)	$ (20,000,000)		$ (18,000,000)		$ (18,000,000)	
Net Impact of Clinical Efficiency on TOH	$ 3,501,473		$ 3,501,473		$ -	
Net Impact of Operational Efficiency on TOH	$ 10,521,817		$ 5,820,935		$ 6,117,016	
One-time Costs/Savings (net of reimbursement)	$ (1,185,775)		$ 629,418		$ (946,341)	
TOH Operating Surplus(Deficit)	$ (52,162,485)		$ (39,024,884)		$ (34,483,627)	
Add Back Amortization of Equipment (net)	$ 12,000,000		$ 13,000,000		$ 13,000,000	
Purchase of Fixed Assets (net of grants)	$ (12,000,000)		$ (15,000,000)		$ (15,000,000)	
TOH Closing Funds Position	$ (199,562,485)		$ (240,587,369)		$ (277,070,997)	

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[200] Restructuring costs include estimated cost of wage standardization as provided by hospital. Amortization of Equipment as estimated by hospital. Purchase of Fixed Assets as estimated by hospital